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ABSTRACT

This publication presents findings from evaluations of many school health programs from across the United States. Each program includes at least one of the following eight components of a comprehensive school health program: health education, clinical services, counseling and mental health services, school environment, school food programs, physical education and physical fitness, faculty and staff health promotion, and community coordination. A uniform format incorporates: (1) name and location of the program; (2) a mission statement; (3) target grade level(s); (4) a description of the student population studied in the evaluation; (5) the setting in which the program was evaluated; (6) components of the program, with the major component listed first in italics; (7) dates during which evaluation studies were conducted; (8) agencies and other partners involved in the program; (9) the name, address, and telephone number of a person to contact for more information; (10) a brief narrative description of the program; (11) a summary of the evaluation design used to assess the program, and (12) a synopsis of major findings of the evaluation study, "Healthy People 2000 Objectives and the National Education Goals," and a form that may be completed and returned to provide information about additional evaluated school health programs are appended. (Contains approximately 100 references.) (LL)

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ED 370 938

SCHOOL HEALTH FINDINGS FROM EVALUATED PROGRAMS

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SCHOOL HEALTH

FINDINGS FROM EVALUATED PROGRAMS

Produced on behalf of
National Coordinating Committee on School Health

by
Office of Disease Prevention and Health Promotion
Public Health Service
U.S. Department of Health and Human Services
Washington, D.C.
1993

Programs described in this publication represent a sampling of school health programs that have been evaluated. It is important to note that no attempt was made by the Public Health Service or the reviewers of this publication independently to determine the quality or validity of the evaluation methodology used or the findings reported by these program evaluations. Findings presented in this document are based on publications or other available reports written by the program designers and/or evaluators. Inclusion of a program description in this publication does not imply endorsement by the Public Health Service, Department of Health and Human Services, or any other agency of the U.S. Government. Similarly, omission of a program does not imply a negative judgment about that program. There are many school health programs around the Nation which may have been evaluated but are not included in this publication; readers are encouraged to provide information about these programs using Appendix C.

FOREWORD

The school years represent a time of extensive learning, exploration, joy, and risk-taking for our children. Young people develop attitudes and beliefs that will shape their adult behaviors. At school, they acquire much of the basic knowledge and many of the skills that enable them to function in our society. To an increasing extent, such knowledge and skills include information and practices that protect children's health and safety throughout their lives.

Schools provide a community-based environment focused on the growth and development of children and adolescents, an environment where children learn and test new information, ideas, and behaviors. Currently, nearly 48 million students are enrolled in public or private schools across the country, with about 5 million school faculty and staff. At a time in which families are challenged on many dimensions, schools have become ever more important settings in which a great number of children can be reached with health promotion programs. Furthermore, school-based or school-linked programs can provide easily accessible services to this population.

The U.S. Public Health Service has prepared *School Health: Findings From Evaluated Programs* to provide information on school health programs throughout the Nation. The intended audience for this publication is health and education officials, including school and community leaders, who are interested in initiating and improving school health programs for students in public and private elementary and secondary schools as well as institutions of higher education. They should find the program descriptions to be a useful compendium of the richness and creativity of design, implementation, and evaluation of school health programs.

J. Michael McGinnis, M.D.
Deputy Assistant Secretary for Health
(Disease Prevention and Health Promotion)

ACKNOWLEDGMENTS

This compendium of evaluated school health programs represents the efforts of many individuals from across the Nation interested in promoting school health. Preparation of this document involved individuals in private and public schools and universities, community organizations, and local, State, and Federal governments.

The U.S. Public Health Service, through its Office of Disease Prevention and Health Promotion, contracted with Birch and Davis Associates, Inc., to compile this report on school health programs. Staff associated with Birch & Davis who participated in the project include: Stephanie Karsten, Project Director; Betty Lorenz, Project Manager; Dale Kasab, Publications Coordinator; Alicia Berkowitz, Writer; Jennie Heard, Writer; and Barbara Potter, Writer. Robert St. Peter and Kristen Weber provided oversight for this project on behalf of the Office of Disease Prevention and Health Promotion.

We wish to thank all individuals who sent us information on evaluated school health programs as well as those who provided editorial review of the program descriptions. Lastly, we wish to thank our colleagues from the Department of Health and Human Services and the Department of Education who provided us with helpful review and comment on this publication.

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CHAPTER I

INTRODUCTION

INTRODUCTION

School health programs offer an exciting strategy for assisting schools, families, and communities in meeting many of the needs of school-aged children. It is commonly acknowledged that children must be healthy in order to be educated, and educated in order to be healthy. Yet many of the health and school-related problems facing children are not being adequately addressed by the available medical and educational resources. Many communities have developed school health programs as a way of meeting these needs of children in a comprehensive, community-based manner. When developing school health programs, schools, teachers, and parents have focused on the most pressing health issues of the students in their communities. As a result, the programs are designed to address high risk health behaviors such as early sexual activity, tobacco use, violence, alcohol and other drug use, poor nutrition, and inadequate physical activity. These problems are addressed through a variety of health education programs, school environment modifications, and service delivery systems.

> Childhood is the prime time of human development. This is no less true for development of good health than it is for social, emotional, and moral development. *Healthy People 2000*

This publication presents findings from evaluations of many school health programs from across the Nation. A brief overview of the components of comprehensive school health programs is followed by a discussion of the information contained in the program evaluation summaries. A chart summarizing all of the programs is then followed by a brief description of each individual program.

DEFINING COMPREHENSIVE SCHOOL HEALTH PROGRAMS

Addressing the full range of health needs of school-aged children calls for a broad and comprehensive approach. A comprehensive school health program includes eight key components:

- **Health education,** providing planned, sequential instructional programs for pre-kindergarten through twelfth-grade students. Health education programs are designed to impact positively the knowledge, attitudes, beliefs, and behaviors of the intervention group.

- **Clinical services,** offering first aid and other clinical services to students and sometimes their families, through school-based or school-linked programs. Screening, diagnosis, and treatment are frequently performed as well as case management for children with special health care needs.

- **Counseling and mental health services,** providing vocational guidance and psychological assessments. Consultations and interventions are also conducted. Issues involving self-esteem, self-control, and peer pressure are addressed with students.

- **Clinical services,** offering first aid and other clinical services to students and sometimes their families, through school-based or school-linked programs. Screening, diagnosis, and treatment are frequently performed as well as case management for children with special health care needs.

- **Counseling and mental health services,** providing vocational guidance and psychological assessments. Consultations and interventions are also conducted. Issues involving self-esteem, self-control, and peer pressure are addressed with students.

- **School environment,** ensuring a safe and secure setting for learning. Aspects of a healthy environment include prevention of lead poisoning; removal of asbestos; the regulation of noise, heating, and lighting; as well as fostering secure, nonthreatening relationships among students and faculty.

- **School food programs,** providing school food services offering healthy choices, as well as education on healthy eating habits and food preparation.

- **Physical education and physical fitness,** providing age-appropriate activities for students to improve their health status, reduce stress, and increase social development.

- **Faculty and staff health promotion,** placing schools in the role of the worksite and offering a range of health promotion and disease prevention services to school faculty and staff. Adult participation in health promotion activities may also serve to model healthful behavior to students.

- **Community coordination,** increasing the school's constituency of supporters and building coalitions within the community.

OVERVIEW OF SELECTED PROGRAMS

This document presents findings from evaluated school health programs that were selected based on the following criteria:

- Operated in the United States

- Based in, or linked to, a school or schools

- Targeted a group of students in grades ranging from kindergarten through college

- Focused on health and/or educational outcomes

- Provided process or outcome evaluation data

- Included at least one of the eight components of a comprehensive school health program:

  - -- Health education
  - -- Clinical services
  - -- Counseling and mental health services
  - -- School environment
  - -- School food programs
  - -- Physical education and physical fitness
  - -- Faculty and staff health promotion
  - -- Community coordination

The program summaries that follow are grouped by the primary focus of the program into one of these eight components. At the end of this chapter, a chart lists each program and indicates the program components included and page number of the program description. To promote easy retrieval of specific information, the uniform format of the summaries includes:

- The name and location of the program
- A statement of the purpose of the program
- The target grade level(s) for the program
- A description of the student population studied in the evaluation
- The setting in which the program was evaluated
- The components of the program, with the major component listed first in italic
- The dates during which evaluation studies were conducted
- The agencies and other partners involved in the program
- The name, address, and telephone number of a person to contact for more information on the program and evaluation
- A brief narrative description of the program
- A summary of the evaluation design used to assess the program
- A synopsis of the major findings of the evaluation study

At the end of the publication, there is a form that may be completed and returned to provide information about additional evaluated school health programs.

CONCLUSION

The school health programs and evaluations described in this publication demonstrate the rich array of programs currently in existence across the Nation. They highlight the potential effectiveness as well as some of the limitations of comprehensive school health programs as an approach to health promotion and disease prevention in school-aged children. While ideally school health programs address the full range of concerns and priorities for the health of school-aged children, the program evaluations described here indicate that the preponderance of school health programs that have been evaluated focus primarily on the health education component of a comprehensive program. As schools continue to implement health programs, attention should be focused on expanding the range of evaluations to include the other components of a comprehensive program as well.

Another important aspect of the program evaluations is the variety of methods of evaluation that have been reported for school health programs. The most commonly used evaluation design was a cohort study, in which participants in program activities were compared with nonparticipants. However, in most cases, the intervention and comparison groups were not randomly assigned and, therefore, not matched for many potential confounding characteristics, such as sociodemographic status. Furthermore, the majority of evaluations examined and compared pre- and post-intervention knowledge, attitudes, and beliefs. Only a small number reported data on behavior, health status, or educational performance. Also of note is the lack of long-term evaluations that document the persistence of beneficial effects of the interventions demonstrated in the short term. The few programs that did report long-term follow-up tended to show a diminution of program effects over time. This is an important consideration when determining the most appropriate timing and frequency for delivery of instruction and services through school health programs.

It is important to note that no attempt was made by the U.S. Public Health Service or the reviewers of this publication to independently determine the quality or validity of the evaluation methodology used or the findings reported by these program evaluations. Findings presented in this document are based on publications or other available reports written by the program designers and/or evaluators. Inclusion of a program description in this publication in no way implies any endorsement by the U.S. Public Health Service, Department of Health and Human Services, or any other agency of the U.S. Government. Furthermore, omission of a program does not imply a negative judgment about that program. Rather, it is intended that the publication of *School Health: Findings From Evaluated Programs* will stimulate the development, implementation, and evaluation of more school health programs to determine what works and what does not work in ensuring that all students enjoy good health and are well educated.

COMPONENTS OF EVALUATED SCHOOL HEALTH PROGRAMS

KEY

■ = Primary
◆ = Secondary

	PROGRAM COMPONENTS								
	HEALTH EDUCATION	CLINICAL SERVICES	COUNSELING AND MENTAL HEALTH SERVICES	SCHOOL ENVIRONMENT	SCHOOL FOOD PROGRAMS	PHYSICAL EDUCATION AND FITNESS	FACULTY AND STAFF HEALTH PROMOTION	COMMUNITY COORDINATION	PAGE NUMBER
ADEPT	◆		■					◆	IV-1
Adolescent Alcohol Prevention Trial	◆		■						IV-2
AIDS Education Pilot Study	■		◆						II-1
Alcohol Misuse Prevention Study (AMPS)	◆		■						IV-3
CHAMPS HIV/AIDS Prevention Program	■							◆	II-2
Changing The Course	■								II-3
Dietary Change Program For Tenth Graders	■								II-4
Every Child A Winner						■			VII-1
Exercise Programs For Children						■			VII-3
Exeter-Andover Project	◆				■				VI-1
Feelin' Good	■					◆			II-5
Future Fit						■		◆	VII-4
Gillespie Student Health Project		■	◆						III-1
Go For Health	◆				◆	■			VII-5
Great Sensations	■				◆			◆	II-6
Growing Healthy	■								II-7
Health Enhancement Program (HEP)							■		VIII-1
Health Promotion For Educators	◆						■		VIII-2
Health Promotion Program For School Personnel							■		VIII-3
Health Start	◆	■							III-2
Healthy Lifestyles Program	◆				◆	◆	◆	■	IX-1
Heart Healthy Eating And Exercise	■					◆			II-9
Hearty Heart	■								II-10
Here's Looking At You, Two	■		◆						II-12
I'm Special Program	◆		■						IV-5
Know Your Body	■		◆	◆					II-13
Life Skills Training	◆		■						IV-6
Middletown Adolescent Health Project	◆	■	◆						III-3
Midfield High School Safety Belt Incentive Program	◆							■	IX-2
Minnesota Smoking Prevention Program	◆							■	IX-3
Nutrition For Life	■					◆			II-16
Nutrition/Changing World (Elementary Students)	■				◆				II-17

KEY

■ = Primary
◆ = Secondary

	PROGRAM COMPONENTS								
	HEALTH EDUCATION	CLINICAL SERVICES	COUNSELING AND MENTAL HEALTH SERVICES	SCHOOL ENVIRONMENT	SCHOOL FOOD PROGRAMS	PHYSICAL EDUCATION AND FITNESS	FACULTY AND STAFF HEALTH PROMOTION	COMMUNITY COORDINATION	PAGE NUMBER
Nutrition/Changing World (Young Adults)	■								II-18
Pawtucket Heart Health Program	■								II-19
Peer Power And ADAM	■							◆	II-20
Positive Youth Development Program	■		◆						II-21
Postponing Sexual Involvement	■	◆							II-22
Project ACCEPT	■								II-23
Project ALERT	◆		■						IV-8
Project Model Health	■								II-24
Project PRIDE	◆		■						IV-9
Project SMART	◆		■						IV-10
Reducing The Risk	■							◆	II-25
Reproductive Health Programs Of Six School-Based Clinics		■							III-4
San Diego Family Health Project	■					◆			II-26
San Francisco AIDS Prevention Education	■								II-27
School-Based Adolescent Health Care Program	◆	■	◆					◆	III-5
School Health Demonstration Program	◆	■	◆					◆	III-6
School/Community Sexual Risk Reduction	◆		◆					■	IX-4
Seattle Children's Bicycle Helmet Campaign	◆							■	IX-5
Self Center Program	◆	◆	■						IV-11
Solid Waste Reduction Program				■	◆				V-1
Stanford Adolescent Heart Health Program	■					◆			II-28
Students For Wellness	■						◆	◆	II-29
Suicide Awareness Curriculum	■		◆						II-30
SUPER II Program	◆		■					◆	IV-12
Teenage Health Teaching Modules	■		◆			◆			II-31
Television, School, And Family Project	■			◆				◆	II-33
Testicular Self-Examination Program	■	◆							II-34
Three Intervention Programs	■		◆						II-35
3 Rs And HBP	■							◆	II-36
Westchester County Occupant Restraint Program	■								II-37
Youth Development And Substance Use Prevention	◆		■		◆			◆	IV-13

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CHAPTER II

HEALTH EDUCATION

AIDS EDUCATION PILOT STUDY
RHODE ISLAND

- **Purpose:** To increase students' knowledge about AIDS, tolerance of people with AIDS, and hesitancy toward high-risk behaviors
- **Targeted grade levels:** Seventh and tenth
- **Population studied:** Students (95% white) in suburban, middle-class communities in Rhode Island
- **Program setting:** Classroom, meeting rooms
- **Components:** *Health education*
  Counseling and mental health services
- **Date of evaluation:** 1987-1988
- **Involved agencies:** American Foundation for AIDS Research; Hasbro Children's Foundation
- **Contact:**
  Larry K. Brown, MD
  Department of Child and Family Psychiatry
  Brown University Program in Medicine
  Rhode Island Hospital
  593 Eddy Street
  Providence, Rhode Island 02903
  (401) 444-8945

The AIDS Education Pilot Study provided an AIDS curriculum in two 45-minute classes within a three-week period, during which age-appropriate films provided facts about AIDS. Parents were involved through open community meetings prior to curriculum implementation.

Evaluation Design

This study charted 313 students' knowledge of AIDS facts, attitudes about risky behavior, and tolerance of persons with AIDS. Researchers also sought to identify students' sources of AIDS information outside the classroom. Pre- and post-tests of knowledge and attitudes were conducted three weeks apart. There was no control group.

Findings

- Even a brief program resulted in increased knowledge, more hesitancy with regard to high-risk behaviors, and greater tolerance, especially among boys in both grades.
- Both seventh and tenth graders indicated increased likelihood of safer behaviors (e.g., using condoms) as they become sexually active.
- Despite high levels of pre-test and post-test awareness of AIDS, many students continued to hold misconceptions about the disease (e.g., a belief that donating blood is risky) and lacked tolerance.

L.K. Brown, G.K. Fritz, and V.J. Barone, "The Impact of AIDS Education on Junior and Senior High School Students," *Journal of Adolescent Health Care* 10 (1989): 386-392.

CHAMPS HIV/AIDS PREVENTION PROGRAM
ARIZONA

- **Purpose:** To develop student leadership skills, prevent negative behaviors, and provide children with HIV/AIDS information to keep them safe without feeling frightened or losing their compassion for those who have been infected
- **Targeted grade level:** Kindergarten through twelfth
- **Population studied:** Students of all educational levels, including those identified as at risk and children in special education programs, in the state of Arizona
- **Program setting:** Classroom
- **Components:** *Health education* Community coordination
- **Date of evaluation:** 1989-1991
- **Involved agencies:** Arizona Department of Drug Policy, Department of Education, Supreme Court, and Department of Economic Security; American Express; United Dairy Council; US West Communications; Centers for Disease Control and Prevention
- **Contact:**
  Sue Harrison
  Administrative Director
  CHAMPS Peer Leadership, Inc.
  14425 North Scottsdale Road
  Suite 400
  Scottsdale, Arizona 85254-3449
  (602) 991-9110

CHAMPS (Champs Have And Model Positive Peer Skills) utilized a peer leadership approach and puppets as key training techniques. Students were trained as puppeteers. They performed grade-specific lessons for younger students with prerecorded scripts on cassettes and followed the puppetry portion with a short class activity. Students learned basic facts about HIV and how to avoid AIDS. Incentives included CHAMPS packets, shirts, certificates, and bumper stickers.

Evaluation Design

In May 1992, three schools were selected from 15 applicants to participate in a pilot study, which involved 102 first-grade students. After pre- and post-testing, statistical analysis focused on both process (program delivery) and outcome (program results) indicators. In addition, staff members completed an evaluation instrument rating the overall train-the-trainer program.

Findings

- Almost three times the number of first-grade students knew key facts about AIDS following the program as did before.
- The number of students frightened by AIDS was reduced by one-half.
- The number of first-grade students who felt they had someone they could go to if they had questions about AIDS was increased more than five times.
- The number of first-grade students who think AIDS is transmitted by casual contact was reduced from over one-half to less than one-third.
- The number of first graders who know that people with AIDS are able to play, hug, and go to school safely with others doubled following the program.

Information on CHAMPS was provided by Alison Vallenari, President, CHAMPS Peer Leadership, Inc., in a letter dated November 13, 1992, and an evaluation report to the Centers for Disease Control and Prevention, dated May 13, 1991.

CHANGING THE COURSE
NEW YORK AND CONNECTICUT

- **Purpose:** To provide students with knowledge, motivation, and behavioral skills to adopt health promoting and cancer risk-reducing eating behaviors
- **Targeted grade level:** First through sixth
- **Population studied:** Students in six elementary schools in New York and Connecticut, representing a cross-section of ethnic groups and socioeconomic levels
- **Program setting:** Classroom
- **Components:** *Health education*
- **Date of evaluation:** 1990
- **Involved agencies:** Schools in New York and Connecticut; American Cancer Society
- **Contact:**

Isobel R. Contento
Health and Nutrition Education
Department, Box 137
Teachers College
Columbia University
New York, New York 10027
(212) 678-3950

Changing The Course was an activity-oriented nutrition education curriculum developed by the American Cancer Society (ACS). It taught children the relationship between nutrition and health, encouraging them to adopt healthful eating patterns that can promote health and decrease risks for cancer and other chronic conditions. The lower elementary curriculum consisted of 16 sessions; the upper elementary, 15. Each session was 45 minutes long. In the lower grades the focus was on introducing children to a variety of healthful foods through tastings, while in the upper grades, decision-making and skills training were introduced.

Evaluation Design

Researchers designed an evaluation to assess program implementation and provide information for the final stages of developing curricula and training protocols. Pilot tests involved 16 teachers in 17 classrooms with 702 students. Ten taught in the lower grades and six in the upper. Data sources included a teacher survey and a teacher-recorded log of program activities, as well as paper-and-pencil post-tests for students.

Findings

- Students reached most of the learning objectives after completing the program: 80% gave correct answers on more than 75% of test items.
- Teacher satisfaction with the curriculum and ACS training was high. They reported that one day of training was adequate.
- Teachers (100%) reported that their students achieved most objectives, liked the activities, participated actively, and did not find the classes boring.

I.R. Contento, D.G. Kell, M.K. Keiley, and R.D. Corcoran, "A Formative Evaluation of the American Cancer Society *Changing the Course* Nutrition Education Curriculum," *Journal of School Health* 62, 9 (November 1992): 411-416.

DIETARY CHANGE PROGRAM FOR TENTH GRADERS MONTEREY, CALIFORNIA

- **Purpose:** To reduce risk factors for cardiovascular disease among adolescents by encouraging changes in dietary knowledge, attitudes, and behavior
- **Targeted grade level:** Tenth
- **Population studied:** Students in two schools in ethnically diverse, middle-class communities of Monterey, California
- **Program setting:** Classroom
- **Components:** *Health education*
- **Date of evaluation:** Spring 1985
- **Involved agencies:** Monterey County, California, school districts; Stanford University; National Heart, Lung, and Blood Institute
- **Contact:**

Abby King, PhD
Assistant Professor of Health Research and Policy and Medicine
Stanford Center for Research in Disease Prevention
730 Welch Road, Suite B
Stanford University
School of Medicine
Palo Alto, California 94304-1583
(415) 725-5309

The Dietary Change Program For Tenth Graders employed social learning strategies to encourage positive dietary changes, such as increased consumption of complex carbohydrates and decreased intake of saturated fats, sugar, and salt. The program provided dietary information and a variety of cognitive, behavioral exercises for modifying dietary practices in five 50-minute sessions over a three-week period. A health professional taught classes with regular teachers present. The course comprised lectures, slide presentations, in-class contests and activities, as well as homework assignments that promoted dietary change outside of the classroom.

Evaluation Design

Tenth-grade classes in two schools were assigned to either a five-session dietary change program or an assessment-only control group. Pre- and post-intervention self-report data were collected from 218 students on their dietary knowledge, behavior, and attitudes; food availability at home; and intentions concerning eating. In addition, observers noted school snack choices.

Findings

- There were significant increases in knowledge, reported healthful dietary behaviors, and reported availability of healthful foods at home for students participating in the program.
- Participating students improved their knowledge of the components of a healthy diet.

A.C. King, K.E. Saylor, S. Foster, J.D. Killen, M.J. Telch, J. Farquhar, and J.A. Flora, "Promoting Dietary Change in Adolescents: A School-Based Approach for Modifying and Maintaining Healthful Behavior," *American Journal of Preventive Medicine* 4, 2 (1988): 68-73.

FEELIN' GOOD
JACKSON COUNTY, MICHIGAN

- **Purpose:** To teach children how to assume responsibility for their own health
- **Targeted grade level:** Kindergarten through seventh
- **Population studied:** Students, parents, and teachers from an area with an average family income of $21,364 in 1980, 80 miles west of Detroit, Michigan
- **Program setting:** Classroom and gym
- **Components:** *Health education*
  Physical education and fitness
- **Date of evaluation:** 1980-1983
- **Involved agencies:** Jackson, Chelsea, and Hillsdale public school systems; Fitness Finders, Inc.; W.K. Kellogg Foundation; University of Michigan; Spring Arbor College
- **Contact:**
  Debbie Drake
  Fitness Finders, Inc.
  Spring Arbor, Michigan 49283
  (517) 750-1500

Feelin' Good was a combination cardiovascular health education (CHE) and physical fitness (PF) program. The CHE part of the program comprised two 30-minute classroom sessions a week for 13 weeks. The PF component included four 30-minute aerobic exercise sessions each week for the duration of the intervention.

Evaluation Design

The study established two groups, a program group of 8,000 students in 14 school districts and control students in three schools in another distict. Every year for three years, 120 program and 30 control group students were chosen for pre- and post-testing for a total of 360 programs and 90 controls. Tests determined cardiovascular fitness, health knowledge, attitudes, and selected behaviors. Parents (300) and teachers (84) were also tested to provide more information on students' culture and community.

Findings

- There were significant improvements in cardiovascular endurance as measured by a mile run. *Feelin' Good* program students decreased their times by an average of 61 seconds; controls, only 2 seconds. Program girls improved the most, with decreases of 66 seconds.
- Total cholesterol values of *Feelin' Good* program students decreased significantly; controls' values increased slightly.
- *Feelin' Good* program students reduced resting diastolic blood pressure by 6% (62.3 mm Hg to 58.8 mm Hg), as compared with that of controls, which did not change.
- Peak work performance, measured by a bicycle exercise test, increased significantly for *Feelin' Good* students.

C.T. Kuntzleman and D.A. Drake, *Feelin' Good: Youth Fitness Report*, Technical Report Submitted to the W.K. Kellogg Foundation (Spring Arbor, Michigan: Fitness Finders, Inc.), 1984.

GREAT SENSATIONS
BALTIMORE, MARYLAND

- **Purpose:** To encourage students to choose more low-sodium snack foods and fewer high-sodium snacks
- **Targeted grade levels:** Third and fourth
- **Population Studied:** African-American students, nearly all from low-income families, in two high schools in Baltimore, Maryland
- **Program setting:** Classroom, school hallways, cafeteria, home
- **Components:** *Health education*
  School food programs
  Community coordination
- **Date of evaluation:** 1982
- **Involved agencies:** City of Baltimore Public Schools
- **Contact:**
  Bruce G. Simons-Morton, EdD, MPH
  Behavioral Scientist
  Prevention Research Branch
  National Institute of Child Health and Human Development
  National Institutes of Health
  6100 Executive Boulevard
  Room 7B05
  Bethesda, Maryland 20892
  (301) 496-1126

Great Sensations taught students about the direct correlation between salty foods and high blood pressure and fostered appreciation of low-sodium foods for snacks. Social learning principles provided the framework for six classroom sessions of instruction, modeling, behavioral rehearsal, and goal setting. *Great Sensations* emphasized avoiding salty snacks such as potato chips, french fries, and hot dogs and promoted foods such as fruit and unsalted peanuts as desirable snacks. A media campaign featured posters in hallways and the cafeteria. The parent outreach component included two telephone calls and literature sent to each home, urging that low-sodium snacks be available in the home.

Evaluation Design

The study assigned 480 students to three groups: (1) classroom instruction and exposure to the media campaign, (2) media campaign only, and (3) control group (no program). The parent component was provided to some members of both program groups. Self-reports provided information about snack selection. Snack preferences were initially probed as part of a general health questionnaire; a six-month follow-up used a brief version of that survey. Complete data were collected on 276 students.

Findings

- The *Great Sensations* program effected modest short-term changes in snacking behaviors.
- A strategy of class instruction with media and parent outreach improved snack selection for up to eight weeks postintervention.
- In the postintervention period, self-reported selection of salty snacks decreased, becoming roughly equal to consumption of target snacks (28.9% to 27.8%).
- A six-month follow-up showed an end to effects of the program, with salty snacking higher than before the *Great Sensations* intervention began.

B.G. Simons-Morton, T.J. Coates, K.E. Saylor, E. Sereghy, and I. Barofsky, "Great Sensations: A Program to Encourage Heart Healthy Snacking by High School Students," *Journal of School Health* 54, 8 (September 1984): 288-291.

GROWING HEALTHY
MULTIPLE SITES

- **Purpose:** To promote students' self-esteem and decision-making skills, enabling them to adopt healthy, responsible attitudes and behaviors in the physical, emotional, and social dimensions of health
- **Targeted grade levels:** Kindergarten through seventh
- **Population studied:** Kindergarten through twelfth-grade students in 20 states
- **Program setting:** Classroom
- **Components:** *Health education*
- **Date of evaluation:** 1979
- **Involved agencies:** Schools across the nation; National Center for Health Education; National Clearinghouse for Smoking and Health; Centers for Disease Control and Prevention; National Diffusion Network; American Lung Association; University of South Dakota School of Medicine
- **Contact:**
  National Center for Health Education
  72 Spring Street, Suite 208
  New York, New York 10012
  (212) 334-9470

Growing Healthy was an interdisciplinary, experiential curriculum that used classroom learning stations to encourage age-appropriate independent thinking, small group work, and discovery around a full range of health topics. Aids to learning included films and other audiovisual materials, anatomical models, computer software, and mobiles. Teachers received up to 40 hours of intensive teacher training; a full supply of materials, with clear specifications for use; and follow-up training after nine months. *Growing Healthy* employed "lateral spread," using trained, experienced teachers to train other teachers.

Evaluation Design

Studies have assessed the effect of *Growing Healthy* on students' overall knowledge, attitudes, practices, ... program-specific knowledge, using pre- and post-...sts to compare students receiving the program with control groups receiving traditional health education curricula. The largest study, which compared four curricula, involved 30,000 fourth- through seventh-grade students in 20 states. Other studies have included examining effects of second exposure to the program, tracking students for 10 years (through twelfth grade), investigating program effects on reading and mathematics scores of third and fourth graders in New York City, evaluating the teacher training provided, and analyzing Michigan principals' and parents' attitudes.

Findings

- In comparison with other curricula, *Growing Healthy* had the greatest effects on overall knowledge, attitudes, and behavior.
- Seventh graders not participating in *Growing Healthy* were three times as likely to start smoking as students participating in *Growing Healthy*.
- Second exposure to the program increased its effectiveness.
- Students in the seventh and ninth grades who received *Growing Healthy* during kindergarten through sixth grade experimented with smoking or illegal drugs significantly less than other students.

Continued on next page

Findings, continued

- Parents of *Growing Healthy* students were more likely to make significant, positive changes in health practices, such as quitting smoking.
- The positive effects of *Growing Healthy* on health knowledge, attitudes, and behavior of students and their families continue through high school.
- Both third- and fourth-grade program participants in New York City improved reading scores significantly. Third graders also achieved significant improvements in mathematics scores, while fourth graders' scores improved, but not significantly.
- *Growing Healthy* training had a significant effect on teachers' perceptions of the positive effect of health education on students and their own abilities to teach health education.
- Of parents and principals surveyed, 99% felt positive about *Growing Healthy* and 98% of parents reported specific changes in their children's attitudes and/or behaviors as a result of the curriculum.

D.P. Connell, R.R. Turner, and E.F. Mason, "Summary of Findings of the School Health Education Evaluation: Health Promotion Effectiveness, Implementation, and Costs," *Journal of School Health* 55, 8 (October 1985): 316-321.

National Center for Health Education, *Growing Healthy*.

National Center for Health Education, "Summary of *Growing Healthy* Evaluations."

S.L. Owen, M.A. Kirkpatrick, S. Wolfe Lavery, H.L. Gonser, S.R. Nelson, R.L. Kavis, E.R. Mason, and D.B. Connell, "Selecting and Recruiting Health Programs for the School Health Education Evaluation," *Journal of School Health* 55, 8 (October 1985): 305-308.

HEART HEALTHY EATING AND EXERCISE
PALO ALTO, CALIFORNIA

- **Purpose:** To increase elementary students' consumption of complex carbohydrates and decrease their consumption of saturated fat, cholesterol, sodium, and sugar; increase their physical activity; and encourage these changes in other family members
- **Targeted grade level:** Fourth and fifth
- **Population studied:** Students from two schools in a well-educated, upper-class community near Palo Alto, California
- **Program setting:** Classroom
- **Components:** *Health education*
  Physical education and fitness
- **Date of evaluation:** 1978
- **Involved agencies:** Menlo Park School District; Stanford University; National Heart, Lung, and Blood Institute
- **Contact:**
  Thomas J. Coates, PhD
  Director, Center for AIDS Prevention Studies
  74 New Montgomery Street, Suite 600
  San Francisco, California 94105
  (415) 597-9157

Heart Healthy Eating And Exercise used informative instruction, role playing, participatory classroom activities, personal goal setting, parent handouts and a seminar, feedback, and reinforcement to encourage positive behavior change in elementary students and their families. Classes were scheduled as part of the school science curriculum during three 45-minute periods a week for four weeks. Undergraduate students from Stanford University instructed the students as regular classroom teachers observed.

Evaluation Design

This study used a time-series design with multiple baselines and lagged program implementation. Daily observations of eating and exercise behaviors began simultaneously in both schools. At the end of week 1 the nutrition program was introduced at school 1, while collection of baseline data continued at school 2. A week later the nutrition program was begun at school 2. The exercise program began at both schools two weeks after the nutrition program. The researchers measured expected changes from the nutrition and exercise classes at separate times since classes were not held concurrently. Observations were conducted continuously during the program and until two weeks after program completion at school 2. Follow-up observations were conducted four months later.

Findings

- The percent of heart-healthy food items found in students' lunches increased 39% at school 1 and 38% at school 2.
- Changes in eating habits continued over a four-month follow-up period that included summer vacation.
- Observed changes in physical activity were minimal and related to seasonal sports activities.

T.J. Coates, R.W. Jeffery, and L.A. Slinkard, "Heart Healthy Eating and Exercise: Introducing and Maintaining Changes in Health Behaviors," *American Journal of Public Health* 71, 1 (January 1981): 15-23.

HEARTY HEART
MINNESOTA AND NORTH DAKOTA

- **Purpose:** To teach students skills that facilitate the learning and practice of healthy eating patterns and to modify parental eating patterns, knowledge, behavior, and attitudes
- **Targeted grade level:** Third
- **Population studied:** Students in the third grade from 31 urban school districts in Minnesota and North Dakota. Most of the students were from white, middle-class families.
- **Program setting:** Classroom, home
- **Components:** *Health education*
- **Date of evaluation:** 1985-1987
- **Involved agencies:** School systems of two states; Department of Food and Nutrition, North Dakota State University; Division of Epidemiology, University of Minnesota; National Heart, Lung, and Blood Institute
- **Contact:**
Cheryl L. Perry, PhD
Division of Epidemiology
School of Public Health
University of Minnesota
611 Beacon Street SE
Stadium Gate 27
Minneapolis, Minnesota 55455
(612) 624-4188

Hearty Heart Home Team was a five-week correspondence course for third-grade children and parents. Five packets, designed to be played as family games, were mailed to participants' homes on a weekly basis. Parents recorded participation points on a scorecard that was returned to the classroom teacher. Families were eligible for various incentive awards. *Adventures of Hearty Heart and Friends* was a five-week, 15-session, classroom-based curriculum that provided third-grade children with the knowledge and skills necessary to make healthy eating choices, recognizing the difference between "everyday" and "sometimes" foods. The home-based and classroom-based programs were equivalent in content and exposure time and were derived from the same conceptual model.

Evaluation Design

The study employed a pre-test/post-test design, involving 31 schools in four urban school districts in Minnesota and North Dakota. The schools were randomly assigned to one of four groups: the school-based Hearty Heart program (HH); the home-based Home Team program (HT); both programs in sequence (HH and HT); or a no-program control group (C). The assigned education program was given to all third-grade students in the participating schools. Pre-testing occurred at the end of the second grade, and post-testing occurred at the end of the third grade and one year later.

Findings

- At the end of third grade, students in home-based programs (HT, HH and HT) reported more improvements in targeted behaviors than students in programs with no home-based component (HH, C). The students in the home-based program group reduced the total fat, saturated fat, and monosaturated fat in their diets and increased their intake of complex carbohydrates.
- These differences persisted at the one-year follow-up; however, they were no longer statistically significant.

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Findings, continued

- Home-based programs were the most effective in increasing parents' dietary knowledge, parent-child communication, and parent-child involvement in food and nutrition issues at home.
- Home-based program parent groups had a significantly higher number of healthy foods on their shelves.

S. Crockett, R. Mullis, C.L. Perry, and R.V. Luepker, "Parent Education in Youth-Directed Nutrition Interventions," *Preventive Medicine* 18 (1989): 475-491.

C.L. Perry, R.V. Luepker, D.M. Murray, M.D. Hearn, A. Halper, B. Dudovitz, M.C. Maile, and M. Smyth, "Parent Involvement with Children's Health Promotion: A One-Year Follow-up of the Minnesota Home Team," *Health Education Quarterly* 16, 2 (Summer 1989): 171-180.

HERE'S LOOKING AT YOU, TWO PENNSYLVANIA

- **Purpose:** To increase students' knowledge about drugs and chemical dependence, self-esteem, coping skills, and effective decision-making
- **Targeted grade level:** Kindergarten through twelfth
- **Population studied:** Students from five school districts different in size, ethnicity, socioeconomic status, and geographic location, in Pennsylvania
- **Program setting:** Classroom
- **Components:** *Health education*
  Counseling and mental health services
- **Date of evaluation:** 1986-1988
- **Involved agencies:** Pennsylvania Commission on Crime and Delinquency, Department of Education, Department of Health, Department of Public Welfare
- **Contact:**
  John M. Kelley, PhD
  Director
  Human Organization Science Institute
  Villanova University
  Villanova, Pennsylvania 19085
  (215) 645-4558

Here's Looking At You, Two, was an alcohol and drug intervention with two components: (1) a comprehensive school curriculum that could be taught as a unit or integrated into several areas and (2) a 30-hour teacher training program to facilitate implementation in the classroom. The curriculum was divided into seven parts, which spanned grades kindergarten through 12. The program was based on research findings that suggested that alcohol and drug abuse can be reduced or avoided if students can achieve higher levels of self-esteem, improved coping skills, effective interpersonal decision-making, and knowledge about chemical dependency.

Evaluation Design

Because study sites implemented the curriculum in different ways, with some sites making the curriculum available to all students within a grade level and others restricting the curriculum to selected groups within grades, the study design allowed for differences of implementation. A total of 2,703 students from grades 4 through 12 were divided into 1,005 control subjects and 1,698 program subjects from among the five school districts. The Educational Quality Assessment was adapted for use in pre- and post-testing of three educational levels: 4-6, 7-9, and 10-12.

Findings

- The program had a significant effect on knowledge at the elementary and middle school levels.
- There was a small, but significant, effect on self-esteem at the elementary level.
- There were no significant effects on decision-making and coping skills.

J.J. Green and J.M. Kelley, "Evaluating the Effectiveness of a School Drug and Alcohol Prevention Curriculum: A New Look at 'Here's Looking at You, Two,' " *Journal of Drug Education* 19, 2 (1989): 117-132.

KNOW YOUR BODY
MULTIPLE SITES

- **Purpose:** To promote positive behavioral change in students to reduce the incidence of risk factors associated with chronic disease, particularly cardiovascular disease
- **Targeted grade level:** Kindergarten through seventh
- **Population studied:** Students in elementary and junior high schools in the urban and suburban areas of New York, NY; elementary schools in Washington, DC; and one elementary school in Houston, TX
- **Program setting:** Classroom
- **Components:** *Health education*
  Counseling and mental health services
  School environment
- **Date of evaluation:** 1975-1990 (various time periods)
- **Involved agencies:** Local school systems; American Health Foundation; National Heart, Lung, and Blood Institute; National Cancer Institute; Ford Foundation; Cancer Research Foundation of America
- **Contact:**
  Ken Resnicow
  Director, Child Health Research
  American Health Foundation
  320 East 43rd Street
  New York, New York 10017
  (212) 551-2541

Know Your Body (KYB) was a comprehensive health-promotion program developed by the American Health Foundation. At its inception the *KYB* program was based upon contemporary educational and behavioral research as well as several theoretical models regarding how children learn and how learning influences (health) behavior, including social learning theory, communication theory, Piaget's theory of intellectual development, and Tylerian theory. Several multicomponent models of health behavior, such as PRECEDE and the Health Belief Model, were also employed in developing the program. Initially composed of three elements--classroom curriculum, parent education, and risk factor screening--*KYB* evolved to also include teacher training and extracurricular activities, such as modification of the school environment--from "heart healthy" entrees in the school cafeteria to schoolwide activities that promoted the establishment of a health-conscious school culture. The *KYB* classroom curriculum also underwent changes. Originally, *KYB* was designed for students in grades 4-8 and provided age-appropriate instruction and cognitive and behavioral skill building while addressing such topics as substance use, smoking, exercise, nutrition, dental health, first aid, accident prevention, risk factor reduction, environmental health, and consumer awareness. In 1990, as part of *KYB's* five-year revision cycle, a *KYB* curriculum revision added a core of decision-making, goal-setting, and communication skills to be used in approaching topics, including family living, self-esteem, and AIDS. Originally designed for students in grades 4-8, the *KYB* curriculum now targets students in grades K-6. *KYB* was approved by the U.S. Department of Education's Program Effectiveness Panel in 1989.

Evaluation Design

Multiple researchers have evaluated *KYB* among a variety of populations. Investigations have generally used pre- and post-tests of clinical outcomes, knowledge, and attitudes related to cardiovascular risk factors to compare *KYB* students with control students. Evaluators have assessed the impact of teacher fidelity to the *KYB* curriculum, teacher approach, and instructional style. One study encompassed 2,283 children in grades 4 through 8 in a lower socioeconomic (lower

Continued on next page

Evaluation Design (continued)

SES) urban area (Bronx, NY) and 1,105 children from a middle- and upper-income (higher SES) suburban setting (Westchester, NY). Another study, a multiyear approach, focused on African-American fourth- to sixth-grade students in nine Washington, DC, schools. Other studies have (1) examined children who were from varied ethnic backgrounds and had cholesterol levels greater than 170 mg/dl in two New York City elementary schools and (2) determined the feasibility of implementing *KYB* in lower SES, predominantly Hispanic communities in Bronx, NY (four elementary schools), and Houston, TX (one elementary school).

Findings

- Students in *KYB* for six years had significantly lower rates of cigarette smoking onset, reduced saturated fat consumption, and increased carbohydrate consumption as compared with control group students.

- Over a three-year longitudinal study, *KYB* students exhibited significantly lower total cholesterol and systolic blood pressure than the control students.

- Total cholesterol levels decreased 2.9% in the lower SES and 5.1% in the higher SES groups. Saturated fat levels dropped 2.1% in the lower SES group and 3.6% in the higher SES group. In the higher SES group, rates of initiation of smoking decreased 73.3% and carbohydrate intake increased 4.5%. (Results for these indicators were not available for the lower SES group.)

- In the second year of a multiyear study systolic/diastolic pressures, serum HDL cholesterol, TC/HDL cholesterol ratio, serum thiocyanate, and fitness had changed favorably. From year three onward, net cholesterol levels also moved favorably.

- There were positive trends among *KYB* students in percentage of kilocalories from fat and saturated fat and in the amount of cholesterol ingested per kilocalorie.

- Teachers who met *KYB* standards for fidelity to curriculum, approach, and style had more favorable student outcomes than other teachers.

- Mean cholesterol in one high-risk *KYB* group fell significantly, from 196.7 mg/dl to 179.1 mg/dl. Females showed a greater decrease (10%) than males (7.9%). Among *KYB* students, 82% reduced total cholesterol levels; values increased for the remaining 18%.

- *KYB* students demonstrated desirable changes in cigarette smoking behaviors and attitudes, but not in attitudes toward alcohol or marijuana.

P.J. Bush, A.E. Zuckerman, V.S. Taggert, P.K. Theiss, E.O. Peleg, and S.A. Smith, "Cardiovascular Risk Factor Prevention in Black School Children: The 'Know Your Body' Evaluation Project," *Health Education Quarterly* 16, 2 (Summer 1989): 215-227.

P.J. Bush, A.E. Zuckerman, P.K. Theiss, V.S. Taggert, C. Horowitz, M.J. Sheridan, and H.J. Walter, "Cardiovascular Risk Factor Prevention in Black Schoolchildren: Two-Year Results of the 'Know Your Body' Program," *American Journal of Epidemiology* 129, 3 (1989): 466-482.

K. Resnicow, L. Cohn, J. Reinhardt, D. Cross, R. Futterman, E. Kirschner, E.L. Wynder, and J. Allegrante, "A Three-Year Evaluation of the 'Know Your Body' Program in Inner-City Schoolchildren," *Health Education Quarterly* 19, 4 (Winter 1992):1-18.

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K. Resnicow, D. Cross, and E. Wynder, "The Role of Comprehensive School-Based Interventions: The Results of Four 'Know Your Body' Studies," *Annals of the New York Academy of Sciences* (April 12, 1991): 285-298.

K. Resnicow, M.A. Orlandi, D. Vaccaro, and E. Wynder, "Implementation of a Pilot School-site Cholesterol Reduction Intervention," *Journal of School Health* 59, 2 (February 1989): 74-78.

V.S. Taggart, P.J. Bush, A.E. Zuckerman, and P.K. Theiss, "A Process Evaluation of the District of Columbia 'Know Your Body' Project," *Journal of School Health* 60, 2 (February 1990): 60-66.

H.J. Walter, "Primary Prevention of Chronic Disease Among Children: The School-Based 'Know Your Body' Intervention Trials," *Health Education Quarterly* 16, 2 (Summer 1989): 201-214.

H.J. Walter and E.L. Wynder, "The Development, Implementation, Evaluation, and Future Directions of a Chronic Disease Prevention Program for Children: The 'Know Your Body' Studies," *Prevention Medicine* 18 (1989): 59-71.

H.J. Walter, R.D. Vaughan, and E.L. Wynder, "Primary Prevention of Cancer Among Children: Changes in Cigarette Smoking and Diet After Six Years of Intervention," *Journal of the National Cancer Institute* 81,13 (July 5, 1989): 995-999.

H.J. Walter, A. Hofman, R.D. Vaughan, and E.L. Wynder, "Modification of Risk Factors for Coronary Heart Disease: Five Year Results of a School-Based Intervention Trial," *The New England Journal of Medicine* 318, 17 (April 28, 1998): 1093-1100.

NUTRITION FOR LIFE
NEW YORK

- **Purpose:** To improve the health-related knowledge, attitudes, and practices of children and youth
- **Targeted grade level:** Seventh and eighth
- **Population studied:** Students whose health and home economics teachers responded to a random sample mail survey in the state of New York
- **Program setting:** Classroom
- **Components:** *Health education*
  Physical education and fitness
- **Date of evaluation:** 1989-1990
- **Involved agencies:** New York school system; New York State Department of Health, Bureau of Nutrition; Cornell University
- **Contact:**
  Patricia Thonney (Program)
  Christine Olson (Evaluation)
  Division of Nutritional Sciences
  Martha Van Rensselaer Hall
  Cornell University
  Ithaca, New York 14853
  (607) 255-2631

Nutrition For Life was a teaching program designed to be integrated into existing curricula in health and home and career skills (home economics) classes. Eating to promote health and well-being was a theme woven into three teaching units that help students understand and value the relationship between nutrition and health. Teachers decided how much or how little of the program to incorporate into the regular curriculum.

Evaluation Design

The study compared post-test results for three groups: classes whose teachers used the *Nutrition for Life* curriculum, classes whose teachers taught nutrition but without *Nutrition for Life*, and classes whose teachers did not teach nutrition. Of the 532 teachers from across New York who responded to a random sample mail survey, 150 teachers were randomly sampled for this impact evaluation. Of these, 103 teachers returned usable test results from 1,863 students.

Findings

- Three hours of teaching program use was associated with modest but significant improvements in nutrition attitude, behavior, and knowledge scores.
- Additional exposure to the program was associated with significantly higher nutrition attitude and behavior scores in schools with a higher proportion of low-income students.

C.M. Devine, C.M. Olson, and E.A. Frongillo, Jr., "Impact of the *Nutrition for Life* Program on Junior High Students in New York State," *Journal of School Health* 62, 8 (October 1992): 381-385.

NUTRITION IN A CHANGING WORLD (ELEMENTARY STUDENTS) PENNSYLVANIA

- **Purpose:** To enhance nutrition knowledge, attitudes, and eating behavior of elementary school children
- **Targeted grade levels:** Kindergarten through fifth
- **Population studied:** Students in the third through fifth grades in 12 school districts in Pennsylvania
- **Program setting:** Classroom, cafeteria
- **Components:** *Health education*
  School food programs
- **Date of evaluation:** 1983-1986
- **Involved agencies:** Nutrition Department of the Pennsylvania State University; Pennsylvania State Department of Education
- **Contact:**
  Elaine McDonald
  c/o The Nutrition Center
  The Pennsylvania State University
  University Park, Pennsylvania 16802
  (814) 865-6323

Nutrition In A Changing World was a sequential food and nutrition curriculum in which food service personnel conducted activities that augmented classroom instruction. Third-grade lessons focused on food experiences. Fourth- and fifth-grade instruction emphasized links between nutrition and health, including nutrients and their role in the human body. Fifth-grade students were also introduced to consumer issues. The curriculum was provided over a 9- to 12-week period each school year.

Evaluation Design

Schools were randomly assigned to the program group or the control group. Initially there were 880 third-grade students in the program group and 830 control group students. The study followed these children through a three-year curriculum sequence. Each year both groups completed pre- and post-tests and teachers administered eating behavior assessments (on food usually eaten) to children on an individual basis. Teachers in control schools continued the existing standard nutrition instruction and there was no participation by food service personnel.

Findings

- Program group children showed greater knowledge gains in nutrition than did controls.
- Improvement in positive eating behaviors and attitudes was most marked among the third-grade children in the program group.

B. Shannon and A.N. Chen, "A Three-Year School-Based Nutrition Education Study," *Journal of Nutrition Education* 20, 3 (1988): 114-124.

NUTRITION IN A CHANGING WORLD (YOUNG ADULTS) PENNSYLVANIA

- **Purpose:** To examine effects of nutrition instruction on student attitudes and behaviors toward food and nutrition
- **Targeted grade levels:** Tenth through twelfth
- **Population studied:** Students at 16 schools located in urban, suburban, and rural districts of Pennsylvania
- **Program setting:** Home economics classes
- **Components:** *Health education*
- **Date of evaluation:** 1983-1984
- **Involved agencies:** Pennsylvania State University Nutrition Center; The Society for Nutrition Education
- **Contact:**
Elaine McDonald
c/o The Nutrition Center
The Pennsylvania State University
University Park, Pennsylvania 16802
(814) 865-6323

Nutrition In A Changing World, Concerns For Young Adults, was a general nutrition curriculum for high school students. A two-hour preparatory session for teachers addressed the rationale for nutrition education, provided curriculum training, and demonstrated sample learning activities. Teachers provided the curriculum over a five- to six-week period.

Evaluation Design

There were 55 classrooms, 21 teachers, and over 600 students involved in the study. Classes were assigned to either program or control groups. Program teachers were trained in methodologies for the study. Pre- and post-tests assessed students for changes in nutrition knowledge, attitudes, and behaviors (food choices and frequency of consumption). Food frequency forms listed 12 food groups: dairy products; animal protein foods; vitamin C-rich fruits and juices; vitamin A/folacin-rich vegetables; other fruits; other vegetables; breads and cereals; cakes, cookies, and pastries; candy; salty snack foods; soft drinks and fruit-flavored drinks; and coffee and tea. Teachers maintained logs to record reactions to lessons and activities.

Findings

- Nutrition knowledge, measured by a 60-item test, increased for program group students.
- Written tests of behaviors and attitudes indicated that students in the program had greater interest in eating new foods and more interest in paying attention to their diets than control group students.
- Older students showed a greater interest in using nutrition information than did younger students.

C. Byrd-Bredbenner, B. Shannon, L. Hsu, and D. Holderness Smith, "A Nutrition Education Curriculum for Senior High Home Economics Students: Its Effect on Students' Knowledge, Attitudes, and Behaviors," *Journal of Nutrition Education* 20, 6 (1988): 341-346.

PAWTUCKET HEART HEALTH PROGRAM
PAWTUCKET, RHODE ISLAND

- **Purpose:** To educate students and teachers about heart healthy nutrition and decrease coronary heart disease risk factors
- **Targeted grade level:** Seventh through twelfth
- **Population studied:** Home economics students and teachers in two public junior high schools in Pawtucket, Rhode Island
- **Program setting:** Classroom
- **Components:** *Health education*
- **Date of evaluation:** 1988-1989 (pilot; refinements ongoing)
- **Involved agencies:** School systems; National Heart, Lung, and Blood Institute
- **Contact**:
  Kim M. Gans, MPH
  Pawtucket Heart Health Program
  Division of Health Education
  Memorial Hospital of Rhode Island
  111 Brewster Street
  Pawtucket, Rhode Island 02860
  (401) 729-2369

The Pawtucket Heart Health Program (PHHP) provided classroom instruction and two specialized nutritional programs in the local junior and senior high schools: *SCORE* (screening, counseling, and referral events) and *Heart Healthy Cook-Offs*. *SCORE* measured weight and initial blood cholesterol and delivered individualized feedback regarding coronary heart disease risk factors and blood cholesterol levels prior to the *Cook-Offs*. Students in home economics classes chose recipes to modify for the *Cook-Off* competition. Low-fat and low-sodium recipes steered students. Computer analysis helped students refine their recipes prior to preparation for judges' ratings. Recipes were judged on taste and whether they met nutritional criteria. Certificates and prizes were awarded to student winners, and teachers received heart healthy cookbooks.

Evaluation Design

The pilot study included 105 junior high students with an average age of 13.3 years. All students participated in the *SCORE*. Those with elevated blood cholesterol levels (greater than or equal to 170 mg/dl, according to National Institutes of Health Consensus Conference Guidelines) were invited to return for measurements after the *Cook-Off* and 12 weeks after the original *SCORE*. Judges rated *Cook-Off* recipes on taste and established criteria for low-sodium and low-fat content.

Findings

- When students with elevated blood cholesterol levels were tested at follow-up, the mean change in blood cholesterol was 21.7 mg/dl, representing a 10.7% average reduction from baseline.
- Of recipes developed by students participating in the *Cook-Offs*, 43% met the criteria for fat and 81% met the criteria for sodium.
- Both home economics teachers and students reported that the program was fun as well as educational.

K.M. Gans, S. Levin, T.M. Lasater, L. Lee Sennett, A. Maroni, A. Ronan, and R.A. Carleton, "Heart Healthy Cook-Offs in Home Economics Classes: An Evaluation With Junior High School Students," *Journal of School Health* 60, 3 (March 1990): 99-102.

PEER POWER AND ADAM
CHICAGO, ILLINOIS

- **Purpose:** To encourage students to delay pregnancy and sexual activity, complete high school, and develop realistic career goals
- **Targeted grade levels:** Sixth through eighth
- **Population studied:** Students in Chicago neighborhoods with high rates of teen pregnancy and school dropout
- **Program setting:** Elementary schools, (with field trips to museums, hospitals, and businesses)
- **Components:** *Health education*
  Community coordination
- **Date of evaluation:** 1990
- **Involved agencies:** The Ounce of Prevention Fund; School Board of the City of Chicago
- **Contact:**
  Saundra Lightfoot
  Rebecca Stone
  The Ounce of Prevention Fund
  188 West Randolph
  Suite 2127 and 2200
  Chicago, Illinois 60601
  (312) 853-6080

Peer Power and **ADAM** were programs aimed at reaching young teens before they encounter problems such as pregnancy and substance abuse. *Peer Power* targeted girls at 17 Chicago schools, while *ADAM* (Awareness and Development for Adolescent Males) set up separate groups for boys. Weekly meetings, held in 2- to 3-hour sessions over two school years, were led by a school teacher or counselor and a teacher's aide who was usually a parent. Sessions dealt with human development and reproduction, decision-making, peer pressure, and self-esteem and also included time for homework and tutoring. Field trips helped students become aware of community resources and career possibilities. Rewards for good attendance, behavior, and class participation included cash, basketballs, and cameras.

Evaluation Design

Organizers looked for short-term results in (1) academic achievement and (2) sexual behavior and attitudes. School record data were used to compare math and reading levels for 137 program participants and 86 other students who were peers but not participants. Sexual behavior and attitudes were gauged by self-reporting of participants over the course of two school years, 1988-89 and 1989-90. Students were not randomly assigned to program and comparison groups.

Findings

- Relative to the comparison group, students in *Peer Power* and *ADAM* were more likely to remain at or above grade level for math and reading.
- School attendance by program participants improved, with the average number of days missed per school year reduced by four.
- Rates of sexual abstinence reported by participants have nearly doubled since the initial *Peer Power* project in the 1984-85 school year.

The Ounce of Prevention Fund, "Success for Every Teen: Programs That Help Adolescents Avoid Pregnancy, Gangs, Drug Abuse, and School Drop-Out," Chicago, Illinois 1990.

POSITIVE YOUTH DEVELOPMENT PROGRAM
NEW HAVEN AND EAST HAVEN, CONNECTICUT

- **Purpose:** To prevent alcohol and drug use
- **Targeted grade levels:** Sixth and seventh
- **Population studied:** Students at one inner-city middle school and one suburban middle school in New Haven and East Haven, Connecticut, respectively
- **Program setting:** Classroom
- **Components:** *Health education*
  Counseling and mental health services
- **Date of evaluation:** 1988
- **Involved agencies:** Connecticut Department of Children and Youth Services; Catherine T. MacArthur Foundation Health and Behavior Network; William T. Grant Foundation Faculty Scholars Program in Mental Health of Children
- **Contact:**
  Roger P. Weissberg, PhD
  Department of Psychology (M/C 285)
  University of Illinois at Chicago
  Behavioral Sciences Building
  1007 West Harrison Street
  PO Box 4348
  Chicago, Illinois 60607-7137
  (312) 413-1012

The Positive Youth Development Program provided a 20-session curriculum with six units: stress management, self-esteem, problem solving, substances and health information, assertiveness, and social networks.

Evaluation Design

Both the inner-city and suburban samples were divided between program and control groups, with a total of 282 children participating. Students completed self-report surveys and teachers rated social adjustment for each participant. To examine program effectiveness, outcomes were measured in five areas: changes in students' skills in handling interpersonal problems and coping with anxiety; social and emotional adjustment; intentions and attitudes toward substance abuse; reported substance use; and attitudes toward the program.

Findings

- 96% of students reported that the program taught them ways to resist alcohol and drug offers.
- In teacher ratings, program students (but not those in the control group) showed improvement in the areas of impulse control and constructive conflict resolution with peers.
- Program participants reported a lower rate of *excessive* alcohol use than did controls. However, the program did not affect students' *experimental* substance use.

M. Caplan, R.P. Weissberg, J.S. Grober, P.J. Sivo, K. Grady, and C. Jacoby, "Social Competence Promotion With Inner-City and Suburban Young Adolescents: Effects on Social Adjustment and Alcohol Use," *Journal of Consulting and Clinical Psychology* 60, 1 (1992): 56-63.

POSTPONING SEXUAL INVOLVEMENT
ATLANTA, GEORGIA

- **Purpose:** To help young people postpone sexual involvement
- **Targeted grade level:** Seventh and eighth
- **Population studied:** Eighth grade students who were low-income minority teens at high risk for early sexual intercourse and poor pregnancy outcomes in 19 schools in Atlanta, Georgia
- **Program setting:** Classroom
- **Components:** *Health education*
  Clinical services
- **Date of evaluation:** 1983
- **Involved agencies:** Atlanta Public Schools; Emory University School of Medicine; Grady Memorial Hospital; Ford Foundation
- **Contact:**
  Marion Howard, PhD
  Clinical Director, Teen Services Program
  Box 26158, Grady Memorial Hospital
  Atlanta, Georgia 30335
  (404) 616-3513

Postponing Sexual Involvement took an innovative "social inoculation" approach in helping young people to postpone sexual involvement. The five classroom period educational series, which was designed to be added to a fact-giving human sexuality course, focused on enabling youth to resist social and peer pressures that lead them to become sexually involved. To enhance the message to delay sexual intercourse, Emory/Grady Teen Services staff trained and supervised 11th- and 12th-grade students in presenting *Postponing Series*. Because of positive evaluation findings about eighth-grade participants, *Preteen Series* was developed for fifth-and sixth-grade students. A follow-through series for ninth and tenth graders is under development.

Evaluation Design

Postponing Series was given to all eighth-grade students in one of the four school systems served by Grady Hospital. A subgroup of low-income, high-risk students from all four school systems was studied to determine program effectiveness for that population. Evaluations examined data from 536 students with respect to opportunity, sexual involvement, pregnancies, births, sexually transmitted diseases, and birth control use. The data sources were (1) five telephone interviews conducted before and after *Series* implementation and (2) hospital medical records examined three years after the start of the intervention.

Findings

- Of students who had not previously had intercourse, *Series* participants were significantly more likely to abstain through the end of the ninth grade than were nonparticipants.
- Nonparticipants were as much as five times more likely to have begun having sex than program participants by the end of the eighth grade.
- Participants experienced fewer pregnancies than nonparticipants.

M. Howard and J. Blaney McCabe, "Helping Teenagers Postpone Sexual Involvement," *Family Planning Perspectives* 22, 1 (January/February 1990): 21-26.

PROJECT ACCEPT
SAN DIEGO, CALIFORNIA

- **Purpose:** To increase knowledge of HIV transmission and infection, change attitudes to reflect scientific information, and change behavioral intentions to correspond with safer sexual practices
- **Targeted grade level:** Undergraduate university students
- **Population studied:** Young adults in four classes at San Diego State University
- **Program setting:** Classroom
- **Components:** *Health education*
- **Date of evaluation:** 1989
- **Involved agencies:** San Diego State University
- **Contact:** Jennifer J. Shulkin
  Health Net
  PO Box 9103
  Van Nuys, California 91409-9103
  (818) 719-7197

Project ACCEPT (AIDS Collegiate, Counseling, Education, and Prevention Team) offered a non-traditional approach to AIDS education. It focused on the notion that peer education and interactions are often the most influential in their power to shape health-related behaviors. Trained undergraduate peer health educators devoted half of a class session (sessions ranged from 50 minutes to 1 1/2 hours) to didactic presentations. Group discussions, demonstrations, and modeling activities engaged students for the remainder of the class. Referral information and health education literature supplemented the presentation.

Evaluation Design

A total of 142 university students participated in the study. Two classes received *Project ACCEPT* and two classes initially received no information. Students completed a pre-test and post-test questionnaire consisting of 11 knowledge true/false questions, 10 attitudinal agreement questions, and 8 behavioral intentions questions. Questionnaires were self-administered using randomly assigned code numbers to maintain anonymity. Knowledge, attitude, and behavioral intentions scores were computed by statistical analysis. After delivering the program to the *Project ACCEPT* group, researchers repeated the intervention for the control students.

Findings

- Study results suggest that the program improved knowledge, attitudes, and behavioral intentions among students.
- Behavioral intentions to practice safer sex, which may be reasonable predictors of actual behavior change, improved following the program.
- Program replication with the control group showed similar results and strengthened the internal validity of the program evaluation.

J.J. Shulkin, J.A. Mayer, L.G. Wessel, C. de Moor, J.P. Elder, and L.R. Franzini, "Effects of a Peer-Led AIDS Intervention With University Students," *Journal of American College Health* 40 (September 1991): 75-79.

PROJECT MODEL HEALTH WISCONSIN

- **Purpose:** To encourage healthy behavior in five risk areas common to adolescents: nutrition, sexuality, drinking and driving, marijuana, and tobacco
- **Targeted grade level:** Eighth
- **Population studied:** Eighth graders from a suburban school with a predominantly white population in Wisconsin
- **Program setting:** Classroom
- **Components:** *Health education*
- **Date of evaluation:** 1984-1985
- **Involved agencies:** Wisconsin Division of Health; Maternal and Child Health Bureau of the US Department of Health and Human Services; National Institute on Drug Abuse
- **Contact:**
  D. Paul Moberg, PhD
  Center for Health Policy and Program Evaluation
  University of Wisconsin-Madison
  433 West Washington Avenue
  Suite 500
  Madison, Wisconsin 53705
  (608) 263-6850

Project Model Health consisted of 32 hours of classroom instruction given in 64 sessions during a semester. Male/female teams of college-age instructors taught students in groups of 11 or 12 on a daily basis. They focused on helping students understand and interpret media messages about the targeted behaviors, provided opportunities to practice peer refusal strategies, and guided students in making public commitments to avoid or change targeted behaviors.

Evaluation Design

Over a two-year period, investigators used pre- and post-testing to compare 115 eighth graders in the target school to 82 eighth graders in a similar school not receiving the intervention. In addition they surveyed an older cohort, the previous year's eighth graders, to allow for cohort comparison.

Findings

- There was significant reduction in rates of cigarette use and improvement of food choices among students in the intervention group.
- *Project Model Health* had a small but significant effect on alcohol use.

D.P. Moberg and D.L. Piper, "An Outcome Evaluation of Project Model Health: A Middle School Health Promotion Program," *Health Education Quarterly* 17, 1 (Spring 1990): 37-51.

REDUCING THE RISK
CALIFORNIA

- **Purpose:** To reduce unprotected intercourse among high school students
- **Targeted grade level:** Tenth
- **Population studied:** Students in 13 high schools from 10 school districts in rural and urban areas of California
- **Program setting:** Classroom
- **Components:** *Health education*
  Community coordination
- **Date of evaluation:** 1988
- **Involved agencies:** 10 rural and urban school districts in California; ETR Associates; University of California (Berkeley); the Stuart Foundation; William and Flora Hewlett Foundation; National Institutes of Health
- **Contact:**
  Douglas Kirby
  Director of Research
  ETR Associates
  PO Box 1830
  Santa Cruz, California 95061
  (408) 438-4060

Reducing The Risk was a 15-session sexuality education curriculum designed to be incorporated into a comprehensive health education class for teenagers. The program emphasized delaying sexual intercourse and practicing effective contraception. It built peer resistance and cognitive and behavioral skills, provided opportunities for role-playing, and promoted parent-child discussions about abstinence and birth control.

Evaluation Design

Researchers assigned 46 classrooms either to receive *Reducing The Risk* or not to receive it. About half of the classes for both groups were taught by the same teacher; the other half were taught by different teachers. Questionnaires were administered to 586 intervention group students and 447 control group students before and immediately after the intervention, 6 months later, and 18 months later.

Findings

- Overall, *Reducing The Risk* had a greater impact on delaying sexual initiation than on increasing birth control practices.
- From pre-test to the 18-month follow-up, knowledge increased among intervention students by 18%, compared with an 11% increase among control students.
- After 18 months, only 29% of intervention students had intercourse, compared with 38% of control students.
- From pre-test to 18-month follow-up, the percentage of students who discussed abstinence with parents increased by 13 percentage points in the intervention group compared with an increase of only 5 percentage points among control students.

D. Kirby, R.P. Barth, N. Leland, and J.V. Fetro, "Reducing the Risk: Impact of a New Curriculum on Sexual Risk-Taking," *Family Planning Perspectives* 23, 6 (November/December): 253-262.

THE SAN DIEGO FAMILY HEALTH PROJECT
SAN DIEGO, CALIFORNIA

- **Purpose:** To induce long-lasting behavioral change by influencing routine family habits related to eating and exercise, specifically to decrease consumption of high-salt and high-fat foods and increase the frequency and intensity of physical activity
- **Targeted grade levels:** Fifth and sixth
- **Population studied:** Low- to middle-income Mexican-American and white families with a fifth- or sixth-grade student in the school district
- **Program setting:** Home, school, meeting room
- **Components:** *Health education*
  Physical education and fitness
- **Date of evaluation:** 1984-1991
- **Involved agencies:** San Diego School District; National Heart, Lung, and Blood Institute
- **Contact:**
  Philip R. Nader, MD
  Child and Family Health Studies
  Department of Pediatrics
  University of California
  La Jolla, California 92093-0927
  (619) 552-7660

The San Diego Family Health Project targeted the family unit as the vehicle for reducing intake of high-salt and high-fat foods and increasing physical activity levels. Families (who did not have hypertension or clinical heart disease) attended 12 intensive weekly group meetings led by graduate students, some of whom were bilingual. Meetings lasted 1-1/2 hours and consisted of a physical activity warm-up, an educational segment, group problem solving, and a social time with music and heart healthy snacks. Six maintenance sessions over a nine-month period concluded the intervention.

Evaluation Design

The study employed a comparison/case control design with pre-/post-testing, assigning families randomly to program or control groups. Data were collected through pre-/post-testing, self-report surveys, direct observation, blood pressure readings, and serum cholesterol testing. Families received $50 per family for each completed measurement after baseline, resulting in excellent retention of study families.

Findings

- Both Mexican-American and white families in the intervention groups gained significantly more knowledge of the skills required to change dietary and exercise habits than did those in the control groups.
- Intervention families in both ethnic groups reported improved eating habits on a food frequency index.
- White families reported lower total fat and sodium intake after the intervention.
- The project did not appear to have a significant effect on reported physical activity or tested cardiovascular fitness levels.

P.R. Nader, J.F. Sallis, T.L. Patterson, I.S. Abramson, J.W. Rupp, K.L. Senn, C.J. Atkins, B.E. Roppe, J.A. Morris, J.P. Wallace, and W.A. Vega, "A Family Approach to Cardiovascular Risk Reduction: Results From The San Diego Family Health Project," *Health Education Quarterly* 16, 2 (Summer 1989): 229-244.

SAN FRANCISCO AIDS PREVENTION EDUCATION CURRICULA
SAN FRANCISCO, CALIFORNIA

- **Purpose:** To increase adolescents' knowledge of the cause, transmission, and prevention of AIDS
- **Targeted grade levels:** Sixth through twelfth
- **Population studied:** Students (over half of whom were Asian-American) in three middle and three high schools in San Francisco, California
- **Program setting:** Classroom
- **Components:** *Health education*
- **Date of evaluation:** 1986-1987 school year
- **Involved agencies:** San Francisco Unified School District; San Francisco Department of Public Health; Centers for Disease Control and Prevention
- **Contact:**
  Ralph J. DiClemente, PhD
  Department of Epidemiology and International Health
  School of Medicine, 1699 HSW
  University of California
  San Francisco, California 94143-0560

The San Francisco AIDS Prevention Education Curricula provided information about the cause, transmission, and prevention of AIDS and other sexually transmitted diseases in three class periods on consecutive days. Four days of in-service training prepared teachers. Activities designed to be age-appropriate centered on videotapes, practice in decision-making and response skills, and class discussions. Parental consent was required for participation.

Evaluation Design

Six teachers selected at random from those completing the in-service training provided the AIDS curricula. Program classes (those receiving the curricula) were matched with (nonprogram) control classes within the same schools. All 639 (39.7% high school and 60.3% middle school) students were pre-tested and post-tested with a 46-item true/false test that measured AIDS knowledge and misconceptions. AIDS knowledge and misconception scores were similar for the two groups at pre-test.

Findings

- Program students had more accurate knowledge about AIDS than control group students. For example, 88% of program students (versus 75% of the control group) correctly cited condoms as a way to prevent the spread of AIDS.
- Program students maintained fewer misconceptions about AIDS than control group students, who more frequently chose "shaking hands" or "coughing" as a means of AIDS transmission.
- Program class students were more likely to endorse attitudes reflecting less fear and greater acceptance of persons who have AIDS.

R.J. DiClemente, C.A. Pies, E.J. Stoller, C. Straits, G.E. Olivia, J. Haskin, and G.W. Rutherford, "Evaluation of School-Based AIDS Education Curricula in San Francisco," *The Journal of Sex Research* 26, 2 (May 1989): 188-198.

THE STANFORD ADOLESCENT HEART HEALTH PROGRAM SANTA CLARA AND CUPERTINO, CALIFORNIA

- **Purpose:** To reduce cardiovascular disease (CVD) risk by helping students develop skills to (1) quit smoking or resist pressures to smoke; (2) become more physically active; (3) improve their diets by decreasing consumption of calories, saturated fat, and cholesterol and increasing consumption of fiber; and (4) cope with stress
- **Targeted grade level:** Ninth and tenth
- **Population studied:** All tenth graders (two-thirds white, one-third minority) enrolled in four high schools in Santa Clara and Cupertino, California
- **Program setting:** Classroom
- **Components:** *Health education*
  Physical education and fitness
- **Date of evaluation:** 1986-1987
- **Involved agencies:** Santa Clara Unified School District; Fremont Union High School District; Stanford Center for Research in Disease Prevention; National Heart, Lung, and Blood Institute
- **Contact:**
  Joel D. Killen, PhD
  Thomas N. Robinson, MD, MPH
  Center for Research in Disease Prevention
  Stanford University School of Medicine
  1000 Welch Road
  Palo Alto, California 94304
  (415) 723-1000

The Stanford Adolescent Heart Health Program consisted of 20 50-minute classroom sessions organized into modules on cigarette smoking, nutrition, personal problem solving, physical activity, and stress. The program was designed to increase the attractiveness of healthful lifestyles, to change personal behaviors, and to aid students in resisting social influences related to CVD. Modules were taught by recent college graduates trained to deliver the intervention.

Evaluation Design

This study evaluated CVD knowledge, dietary behavior, exercise frequency, smoking rates, and physiologic variables among 1,447 students, some of whom were exposed to the seven-week CVD program and some of whom were not. Trained staff from outside the school assessed students in both groups through self-administered questionnaires and physical measurements at baseline and two months after program completion.

Findings

- Knowledge scores of boys in the *Heart Health* group increased an average of 11.1 points; girls' scores increased an average of 14.2. Scores of boys in the control group decreased by 1.4 points; girls' scores increased by only 0.8 points.
- More *Heart Health* students initially classified as nonregular exercisers reported regular aerobic physical activity at follow-up. Both boys and girls in the *Heart Health* group significantly reduced their resting heart rates compared to controls.
- At follow-up students in the *Heart Health* group were significantly more likely to report choosing "heart-healthy" foods than their control group counterparts. Significant beneficial program effects were also observed for body mass index, triceps skin fold thickness, and subscapular skin fold thickness among *Heart Health* students as compared to controls.

J.D. Killen, T.N. Robinson, M.J. Telch, K.E. Saylor, D.J. Maron, T. Rich, and S. Bryson, "The Stanford Adolescent Heart Health Program," *Health Education Quarterly* 16, 2 (Summer 1989): 263-283.

J.D. Killen, M.J. Telch, T.N. Robinson, N. Macoby, C.B. Taylor, and J.W. Farquhar, "Cardiovascular Disease Risk Reduction for Tenth Graders," *Journal of the American Medical Association* 260, 12 (September 23/30, 1988): 1728-1733.

STUDENTS FOR WELLNESS
FAYETTEVILLE, ARKANSAS

- **Purpose:** To encourage and enhance voluntary changes by students, faculty, and staff that will help improve their wellness
- **Targeted grade level:** Ninth through twelfth, faculty, staff
- **Population studied:** Students, faculty, and staff of Fayetteville Senior High School in Fayetteville, Arkansas
- **Program setting:** Classroom, community
- **Components:** *Health education*
  Faculty and staff health promotion
  Community coordination
- **Date of evaluation:** 1983-present
- **Involved agencies:** Fayetteville School District; Arkansas Department of Education; Fire and Police Departments; civic clubs; local hospitals; private physicians; area mental health agencies; local factories; community members
- **Contact:**
  Tom Williams, EdD
  Fayetteville Senior High
  Health Education
  1001 West Stone Street
  Fayetteville, Arkansas 72701
  (501) 444-3050

Students For Wellness was a school-based curriculum aimed at increasing health knowledge and modifying health attitudes and behaviors to promote wellness among students, faculty, and staff. Field trips, guest speakers, community projects, and student wellness groups augmented the program's health and exercise physiology courses. Exercise physiology students participated hands-on with a wide variety of medical equipment. They also used that equipment to test the community, faculty, and staff in health-screening booths throughout the community and the state. Students interested in medical careers could participate in a two-week summer program in local hospitals and laboratories. Students could also act as peer facilitators, teaching a sixth-grade class about wellness once a week. They also published a monthly newsletter.

Evaluation Design

To determine ongoing program effectiveness, the school district used pre- and post-tests and assessed health and fitness measurements, e.g., blood chemistry levels, body fat percentages, cardiovascular efficiency, and muscle strength. Surveys solicited information about students' personal health, drug and alcohol attitudes, and behavior. Students, teachers, parents, and community members evaluate the health and wellness curriculum annually.

Findings

- Since 1983 mean total cholesterol levels have dropped from 235 to 200 mg/dl, cardiovascular efficiency has increased 15% among all treadmill participants, and body fat percentage has dropped 5.6% for females and 4.2% for males.
- In 1990 only 10% of students reported that they were currently *not* drinking alcoholic beverages. By 1992 36% of students denied current usage.
- Between 1990 and 1992 the number of students reporting marijuana usage decreased 15%; reported cocaine usage decreased 20%.
- The number of smokers decreased by 13% from 1990 to 1992, but the number of smokeless tobacco users increased by 3%.

Correspondence from Tom Williams, EdD, Fayetteville Senior High Health Education, dated October 26, 1992.

SUICIDE AWARENESS CURRICULUM
RHODE ISLAND

- **Purpose:** To improve students' knowledge, attitudes, and beliefs about suicide
- **Targeted grade level:** Ninth
- **Population studied:** Students at three high schools representing both suburban and rural areas in Rhode Island
- **Program setting:** Classroom
- **Components:** *Health education*
  Counseling and mental health services
- **Date of evaluation:** 1986-1987
- **Involved agencies:** School districts; Rhode Island Department of Health; Samaritans of Rhode Island
- **Contact:**
  Anthony Spirito, PhD
  Child and Family Psychiatry
  Rhode Island Hospital
  593 Eddy Street
  Providence, Rhode Island 02903
  (404) 444-4515

The Suicide Awareness Curriculum taught students attitudes; awareness; facts; risk factors; and identification, intervention, and referral techniques to use with peers at risk. Local Samaritan chapter-trained teachers presented materials in a six-week structured curriculum. Students also participated in less structured, teacher-led discussions to explore feelings and attitudes about adolescent problems, suicide, and death.

Evaluation Design

Students were assigned to one of four groups: (1) students assessed before and after receiving the Suicide Awareness Curriculum, (2) controls assessed similarly to those students, (3) students receiving the curriculum and assessed only at the end, and (4) controls assessed only at the end.

Findings

- Students who had been pre-tested demonstrated an increase in suicide knowledge and a decrease in hopelessness.
- The suicide curriculum had an effect on the use of certain coping strategies and the perceived efficacy of other coping strategies.

A. Spirito, J. Overholser, S. Ashworth, J. Morgan, and C. Benedict-Drew, "Evaluation of a Suicide Awareness Curriculum for High School Students," *Journal of the American Academy of Child and Adolescent Psychiatry* 27, 6 (1988): 705-711.

TEENAGE HEALTH TEACHING MODULES CURRICULUM MULTIPLE SITES

- **Purpose:** To help junior and senior high school students develop skills in self-assessment, communication, decision-making, health advocacy, and healthy self-management
- **Targeted grade level:** Seventh through twelfth
- **Population studied:** Students in 149 diverse schools in Arkansas, California, Colorado, Florida, Maryland, Michigan, and Vermont
- **Program setting:** Classroom
- **Components:** *Health education*
  Counseling and mental health services
  Physical education and fitness
- **Date of evaluation:** 1986-1989
- **Involved agencies:** The Education Development Center; Centers for Disease Control and Prevention
- **Contact:**
  Lloyd J. Kolbe
  Director, Division of Adolescent and School Health
  Center for Chronic Disease and Prevention and Health Promotion
  Centers for Disease Control and Prevention
  1600 Clifton Road NE
  Atlanta, Georgia 30333
  (404) 488-5314

The Teenage Health Teaching Modules (THTM) Curriculum was composed of 16 instructional modules on developmentally based health tasks of concern to adolescents. They were designed to be used as a stand-alone comprehensive school health curriculum or as an adjunct to textbook or other curriculum materials in different subject areas. The curriculum was flexible about sequence and number of modules taught.

Evaluation Design

A nonequivalent control group design was employed to evaluate the curriculum at two types of schools: "experimental" schools, which were targeted for a controlled *THTM* program, and "naturalistic" schools, which already had *THTM* in place. A single academic subject area was chosen for study, judgmentally in experimental schools and randomly in naturalistic schools. A second subject area with little or no health content was chosen for control in both types of schools. Experimental schools were selected from California, Maryland, and Vermont; naturalistic schools, from Arkansas, Colorado, Florida, and Michigan. Student pre- and post-tests measured student knowledge, attitudes, and priority health behaviors, including seat belt use, consumption of fried foods, cigarette smoking, use of smokeless tobacco, use of illegal drugs, and alcohol consumption.

Findings

- Students in *THTM* classes increased their health knowledge significantly more than those in control classes. This effect was greater for junior high/middle school students than for senior high students.
- Health attitudes were unchanged among *THTM* students, but deteriorated among control students.
- Reports from students at naturalistic senior high schools showed relative improvements in abstinence from cigarettes and smokeless tobacco, nonuse of illegal drugs, and alcoholic drinks consumed in the past 30 days.

Continued on next page

Findings (continued)

- Students from experimental schools showed relative reductions in mean number of cigarettes smoked and mean incidence of illegal drug use.

G.D. Nelson, F.S. Cross, and L.J. Kolbe, "Introduction: Teenage Health Teaching Modules Evaluation," *Journal of School Health* 61,1 (January 1991): 20.

J.G. Ross, R.S. Gold, A.T. Lavin, M.T. Errecart, and G. Nelson, "Design of the Teenage Health Teaching Modules Evaluation," *Journal of School Health* 61, 1 (January 1991): 21-25.

M.T. Errecart, H.J. Walberg, J.G. Ross, R.S. Gold, J.L. Fiedler, and L.J. Kolbe, "Effectiveness of Teenage Health Teaching Modules," *Journal of School Health* 61, 1 (January 1991): 26-30.

R.S. Gold, G.S. Parcel, H.J. Walberg, R.V. Luepker, B. Portnoy, and E.J. Stone, "Summary and Conclusions of the THTM Evaluation: The Expert Work Group Perspective," *Journal of School Health* 61, 1 (January 1991): 39-42.

THE TELEVISION, SCHOOL, AND FAMILY PROJECT
LOS ANGELES AND SAN DIEGO, CALIFORNIA

- **Purpose:** To increase students' social resistance skills to combat the pressures to smoke and to use drugs through a coordinated school, family, and television program
- **Targeted grade level:** Seventh
- **Program setting:** Classroom, home
- **Components:** *Health education*
  School environment
  Community coordination
- **Population studied:** Students, their parents, and other adult family members in four Los Angeles school districts and two San Diego school districts
- **Date of evaluation:** 1986
- **Involved agencies:** Los Angeles and San Diego school districts; National Institute on Drug Abuse; ABC-TV (Los Angeles affiliate)
- **Contact:**
  Brian R. Flay, DPhil
  Professor and Director
  Prevention Research Center
  University of Illinois at Chicago
  850 West Jackson Boulevard, Suite 400
  Chicago, Illinois 60607
  (312) 996-7222

The Television, School, and Family Project focused on students' social resistance skills to combat the pressures to smoke and use drugs. A national television network affiliate complemented the school curriculum and family homework assignments by broadcasting corresponding five-minute prevention segments during the evening news. Parent involvement and interactive student/teacher activities addressed the need for increased levels of social skills among children at higher risk to experiment with tobacco and other substances.

Evaluation Design

The study compared the effects of classroom and television delivery formats. Schools were randomly assigned to one of four groups: (1) TV and classroom (social resistance), (2) TV, (3) classroom (social resistance), and (4) classroom (information based). Students, parents, instructors, observers, and school staff were surveyed immediately after program sequences. Approximately 4,100 students, 2,900 parents, and 115 instructors participated.

Findings

- Both television and classroom delivery demonstrated significant positive effects on overall program acceptance.
- Student homework assignments to view television segments with parents at home proved to be a useful strategy for involving families in school-based programs.
- Television delivery enhanced student and parent involvement and increased satisfaction with classwork and the overall program.
- With preservice training provided, teachers preferred social resistance strategies for drug use prevention over the information-based curriculum.

B.R. Brannon, C.W. Dent, B.R. Flay, G. Smith, S. Sussman, M.A. Pentz, C.A. Johnson, and W.B. Hansen, "The Television, School, and Family Project," *Preventive Medicine* 18 (1989): 492-502.

TESTICULAR SELF-EXAMINATION PROGRAM
RICHMOND, KENTUCKY

- **Purpose:** To teach high school students about testicular cancer and self-examination, and to encourage them to perform the exam once a month
- **Targeted grade level:** Ninth and tenth
- **Population studied:** White, middle-class males from the small, rural community of Richmond, Kentucky
- **Program setting:** Classroom
- **Components:** *Health education*
  Clinical services
- **Date of evaluation:** 1989
- **Involved agencies:** Madison County School District; Eastern Kentucky University; Kentucky Division of the American Cancer Society
- **Contact:**
  Robert G. Brubaker, PhD
  Department of Psychology
  102 Cammack Building
  Eastern Kentucky University
  Richmond, Kentucky 40475
  (606) 622-1105

The Testicular Self-Examination (TSE) Program addressed the theory of planned behavior by teaching male students about testicular cancer and the importance of self-examination. It challenged unfavorable beliefs about the outcomes of TSE. Students viewed a 12-minute, targeted video entitled *TSE: It Can Save Your Life* that aims at strengthening perceived social pressure to perform the exam and emphasizes the ease with which it can be mastered. *For Men Only*, a slide/tape presentation, focused on providing clinical information about testicular and other forms of cancer. A pamphlet provided general health information without reference to testicular cancer or TSE.

Evaluation Design

Ninety-nine students participated in the program. Six classes of students were randomly assigned to receive different types of information in one of three ways: theory-based message group (video), informational message (slide/tape), and control group (general health pamphlet). Pre- and post-tests (questionnaires) measured students' knowledge and TSE performance. A follow-up questionnaire one month after message delivery assessed TSE performance since the intervention.

Findings

- Students given the theory-based message (video) reported a significantly higher intention to perform TSE than other students, a more favorable attitude toward TSE, and a stronger belief that performing TSE would help prevent the spread of cancer.
- Students given the theory-based message were more likely to have performed TSE, 41% versus 23% of those exposed to the informational message and 6% of students in the control group.
- Students given the theory-based message scored significantly higher on TSE knowledge than the other two groups.

W.G. Murphy and R.G. Brubaker, "Effects of a Brief Theory-Based Intervention on the Practice of Testicular Self-Examination by High School Males," *Journal of School Health* 60 (November 1990): 459-462.

THREE INTERVENTION PROGRAMS WILLIAMSPORT, PENNSYLVANIA

- **Purpose:** To encourage the adoption of healthy behaviors related to nutrition, blood pressure, and smoking
- **Targeted grade level:** Fifth through seventh
- **Population studied:** Students in the fifth through seventh grades and their parents in Williamsport, Pennsylvania
- **Program setting:** Classroom, home
- **Components:** *Health education*
  Counseling and mental health services
- **Date of evaluation:** 1984-1987
- **Involved agencies:** Williamsport Consolidated School District; National Heart, Lung, and Blood Institute
- **Contact:**
  Rita Yopp Cohen
  Department of Psychology
  University of Delaware
  Newark, Delaware 19716
  (302) 831-2717

The Three Intervention Programs targeted three separate areas for prevention: nutrition, blood pressure, and smoking. The programs each consisted of four 45-minute classroom sessions, with nutrition classes at the fifth-grade level, blood pressure at the sixth, and smoking prevention at the seventh. The nutrition program sought to build students' ability to choose low-fat, low-salt foods and their capacity to resist peer pressure. The blood pressure curriculum was based on the *3Rs* program developed by the Georgia Heart Association. Children learned about the behaviors associated with high blood pressure prevention. The smoking curriculum was adapted from the *Project CLASP* curriculum. It, too, included practice in resisting peer pressure.

Evaluation Design

At baseline, students completed a comprehensive health survey and the parents of those children were interviewed by telephone. Students were randomly assigned to either an older peer-led group or to a teacher-led group. Peer leaders included a focus on the influence of parents as role models. Classroom teachers did not include this focus. Post-testing included one-year follow-up.

Findings

- Both teacher-led and peer-led interventions were successful in increasing behavioral capabilities for nutrition and blood pressure, measured one year after the interventions.
- In the blood pressure intervention, students in the peer-led group demonstrated *greater* capabilities at one-year follow-up.
- Results of the parent-child survey revealed reasonable agreement between parents and children for reports of the child's exercise, dieting, and fast food consumption, but poorer agreement for smoking and perceptions of family interaction.

R. Yopp Cohen, M.R.J. Felix, and K.D. Brownell, "The Role of Parents and Older Peers in School-Based Cardiovascular Prevention Programs: Implications for Program Development," *Health Education Quarterly* 16, 2 (Summer 1989): 245-253.

3Rs AND HBP
DEKALB COUNTY, GEORGIA

- **Purpose:** To diffuse high blood pressure (HBP) information from teachers to pupils and then to parents, using students as "health messengers"
- **Targeted grade level:** Sixth
- **Population studied:** Children and parents from varied racial groups at high risk for developing hypertension in 21 schools (60 classes) near Atlanta in Dekalb County, Georgia
- **Program setting:** Classroom, home
- **Components:** *Health education*
  Community coordination
- **Dates of evaluation:** 1985-1986
- **Involved agencies:** DeKalb County School District; Georgia Affiliate, American Heart Association; University of Georgia; National Heart, Lung, and Blood Institute
- **Contact:**
  Stuart W. Fors, EdD
  Department of Health Promotion and Behavior
  University of Georgia
  Athens, Georgia 30602
  (706) 542-4365

3Rs And HBP was a two-week curriculum that included teaching pupils how to use a stethoscope and sphygmomanometer. Students were commissioned as "health messengers" to take information about the relationships between lifestyle and high blood pressure (HBP) to parents.

Evaluation Design

Evaluators randomly assigned schools to three groups, with 1,204 students and 1,444 parents participating. Specially trained teachers provided *3Rs* and *HBP* to groups A and B. Group A students were to discuss HBP and measure blood pressures at home; group B students were to discuss HBP at home. Group C students received the school district's usual cardiovascular health curriculum. Data sources included student surveys (immediately after the 3Rs and HBP program, four weeks later, and four months later); in-person parent interviews (four and eight months later); and telephone interviews with parents (12 months later).

Findings

- Students in group A tested higher than those in groups B or C on HBP knowledge.
- 70% of students from group A passed the blood pressure measurement skill test, compared with 40% of students from group B.
- More students in group A (30%) discussed HBP at home than those in groups B (15%) or C (12%).
- 76% of A group parents reported HBP discussions compared with 54% in group B and 40% in group C.
- Across groups, families with high interaction/cohesion had significantly more discussion than those that had low cohesion scores.

S.W. Fors, S. Owen, W.D. Hall, J. McLaughlin, and R. Levinson, "Evaluation of a Diffusion Strategy for School-Based Hypertension Education," *Health Education Quarterly* 16, 2 (Summer 1989): 255-261.

WESTCHESTER COUNTY OCCUPANT RESTRAINT PROGRAM
YONKERS, NEW YORK

- **Purpose:** To improve the rate of seat-belt use in young school-age children and their parents
- **Targeted grade level:** Pre-kindergarten through second
- **Population studied:** Students in a public school offering a gifted and talented magnet program (by selective admission) to diverse racial and socioeconomic groups in Yonkers, New York
- **Program setting:** Classroom
- **Components:** *Health education*
- **Date of evaluation:** 1986
- **Involved agencies:** Yonkers School District; Westchester County Department of Public Works-Traffic Safety Board
- **Contact:**
  Robert Morrow, MD
  5997 Riverdale Avenue
  Bronx, New York 10471
  (718) 884-9803

The Westchester County Occupant Restraint Program, a school-based program to increase seat-belt use, centered a school's health curriculum on car safety for one "Buckle-up" month. The program sought to empower children to take control of their personal safety. The rationale for the program is that children over three years of age are generally out of car safety seats. Sometimes they test parental authority by failing to comply with requests to "buckle up," and thus become especially vulnerable to injury in automobile accidents. The Westchester County Occupant Restraint Program provided coloring books and posters. Buckle-up Bear (a volunteer in a bear suit) kicked off the intervention, and teachers organized age-appropriate activities that included coloring, watching movies, and painting posters.

Evaluation Design

A 15-week study evaluated seat-belt use before and after the "Buckle-up" month in a group of young school-age children who were transported to school in private cars by their parent drivers. Observers watched children exiting from cars at one of the school's entrances, counted the number of children, and noted seat-belt use. Observation occurred twice before the intervention and twice afterward. Before the program, 125 children and 132 drivers were observed. (A few children were missed in the count.) After the program ended, observers recorded information on 147 children and 150 adults (immediately afterward), and 107 children and 107 adults (one month later).

Findings

- Children increased seat-belt use from 46% to 66%. Improvement persisted at 63% through the second post-intervention follow-up.
- Parents' seat-belt use improved from 47% to 61%. Improvement continued at 62% through the second post-intervention follow-up.
- Boys began with higher seat-belt use than girls and improved from 52% to 60%, but at follow-up their rate returned to 54%.

R. Morrow, "A School-Based Program to Increase Seatbelt Use," *The Journal of Family Practice* 29, 5 (1989): 517-520.

CHAPTER III

CLINICAL SERVICES

GILLESPIE STUDENT HEALTH PROJECT
GREENSBORO, NORTH CAROLINA

- **Purpose:** To provide access to health care for adolescents at risk for health, economic, and social problems
- **Targeted grade level:** Sixth through twelfth
- **Population studied:** Economically disadvantaged students attending an alternative high school (with chronic attendance problems, academic underachievement, and serious behavior problems) in Greensboro, North Carolina
- **Program setting:** School-based clinic
- **Components:** *Clinical services*
  Counseling and mental health services
- **Date of evaluation:** 1990-1991
- **Involved agencies:** Guilford County Department of Public Health; Moses Cone Hospital; Greensboro Public Schools; Robert Wood Johnson Foundation
- **Contact:**
  Jane Foy, MD
  Guilford County Child Health
  1100 East Wendover Avenue
  Greensboro, North Carolina 27405
  (919) 333-6687

The Gillespie Student Health Project provided health education, health promotion, screening, and a school-based clinic at the Alternative Education Program (AEP). The Gillespie Health Center (GHC) thus served low-income, at-risk students (over half living in single-parent households headed by females, 22% self-supporting, 4% living independent of parents, and over 30% pregnant or parenting a child). At the GHC students received accessible, affordable, and confidential services as well as increased social support.

Evaluation Design

Researchers sought to determine associations between clinic use and positive scholastic outcomes, decreases in absences, suspensions, or dropping out, or improved promotion and graduation rates. Data sources included (1) archival records on school enrollment, attendance, suspensions, drop outs, and graduation/promotion for all AEP students (322) during the 1990-1991 school year, (2) school attendance records (school and demographic data), and (3) the GHC (clinic usage and additional demographic data).

Findings

- Students who actually used the clinic had a lower rate of absence than students who registered but did not use the clinic and students who did not register.
- Students who were registered for the clinic were more likely to stay in school than those who were not registered (44% versus 29%).
- Registered students were also more likely to graduate or be promoted than non-registered students.

J.D. Klein and M.T. McCord, *Evaluation of the Gillespie Student Health Project, Greensboro, North Carolina*, Evaluation and Technical Assistance Report to the Robert Wood Johnson School-Based Adolescent Health Care Program, April 4, 1992.

HEALTH START
ST. PAUL, MINNESOTA

- **Purpose:** To prevent unwanted pregnancies and provide prenatal care
- **Targeted grade levels:** Seventh through twelfth
- **Population studied:** Female students at three schools in St. Paul, Minnesota
- **Program setting:** School clinics
- **Components:** *Clinical services*
  Health education
- **Date of evaluation:** 1973-1979
- **Involved agencies:** St. Paul Board of Education; Minnesota Department of Health; Minnesota Family Planning and Special Project Funds; Medical Education and Research Foundation; U.S. Department of Health, Education and Welfare
- **Contact:**
  Donna Zimmerman
  Executive Director
  Health Start
  640 Jackson Street
  St. Paul, Minnesota 55101
  (612) 221-3441

Health Start, a nonprofit organization in St. Paul, offers comprehensive, multidisciplinary health care to adolescents. Its school clinic program, begun in 1973, provided simple laboratory tests, including pregnancy tests, onsite. The clinic, by agreement with the St. Paul Board of Education, referred students seeking family planning services to a teen clinic at St. Paul-Ramsey Medical Center. From the opening of the first school clinic through the 1978-79 school year, 403 students received medical and educational services. Of these, 85 were given prenatal care and subsequently delivered at the St. Paul-Ramsey Medical Center. The *Health Start* clinics have evolved into general adolescent health clinics in five St. Paul high schools.

Evaluation Design

The records of all 403 students who received family planning services and/or prenatal care at the three *Health Start* school clinics were reviewed. Contraceptive usage over a six-year interval was evaluated by calculating termination and continuation rates. Fertility rates for the schools' female population served were calculated separately for each year the in-school clinics were in operation.

Findings

- By the 1977-1978 school year, 25% of the schools' female students received family planning services through *Health Start* clinics.
- 87% of those receiving family planning services were still using contraception three years later.

L.E. Edwards, M.E. Steinman, K.A. Arnold, and E.Y. Hakanson, "Adolescent Pregnancy Prevention Services in High School Clinics," *Family Planning Perspectives* 12, 1 (January/February 1980): 6-14.

MIDDLETOWN ADOLESCENT HEALTH PROJECT
MIDDLETOWN, DELAWARE

- **Purpose:** To provide school-based, comprehensive health services for students
- **Targeted grade levels:** Ninth through twelfth
- **Population studied:** Students at a rural high school, Middletown High School in Middletown, Delaware
- **Program setting:** School clinic
- **Components:** *Clinical services*
  Health education
  Counseling and mental health services
- **Date of evaluation:** 1985-1986
- **Involved agencies:** Delaware Division of Public Health; Appoquinimink School District, Middletown, Delaware; Maternal and Child Health Bureau, Health Resources and Services Administration
- **Contact:**
  Lucille P. Siegel, MPH
  Division of Public Health
  PO Box 637
  Dover, Delaware 19903
  (302) 739-4700

The Middletown Adolescent Health Project (MAHP) was launched with the cooperation of the local school district, with clinic staff from the Delaware Division of Public Health. The regular school nurse served as a liaison, referring students to the clinic. Services provided included treatment of minor and acute illnesses, sports and routine physical examinations, laboratory tests, screenings, wellness activities, medical social services, and nutrition counseling.

Evaluation Design

By the end of the first school year of operation, half of the 658 students had used the services. Assessment (1) compared project costs with costs of private health care available and (2) surveyed users' feelings about the project. All students in the project received the survey, which was distributed and collected over a three-month period. A further measure of student satisfaction was the rate at which they kept clinic appointments.

Findings

- The school clinic provided geographically accessible services to students, 68% of whom had a regular doctor located outside of their rural community.
- The clinic provided services to economically disadvantaged students; 58% of enrollees were from families with one or no wage earners.
- *MAHP* treatment costs were less than those incurred when receiving services from private physicians.
- Fewer than 6% of scheduled appointments were cancelled due to student "no shows."

L.P. Siegel and T.A. Krieble, "Evaluation of School-based, High School Health Services," *Journal of School Health* 57,2 (October 1987): 323-325.

REPRODUCTIVE HEALTH PROGRAMS OF SIX SCHOOL-BASED CLINICS
MULTIPLE SITES

- **Purpose:** To influence sexual behavior and contraceptive usage among teenagers
- **Targeted grade level**: Ninth through twelfth
- **Population studied:** Students from low-income families, with large proportions of African Americans and other minorities with limited access to other sources of health care; one school each in six communities that represent rural and urban as well as different political and cultural environments: Gary, Indiana; San Francisco, California; Muskegon, Michigan; Jackson, Mississippi; Quincy, Florida; and Dallas, Texas
- **Program setting:** School-based clinic
- **Components:** *Clinical services*
- **Date of evaluation:** 1984-1985
- **Involved agencies:** Clinics Center for Population Options; Ford Foundation; William T. Grant Foundation; Charles Stewart Mott Foundation
- **Contact:**
  Douglas Kirby
  Director of Research
  ETR Associates
  PO Box 1830
  Santa Cruz, California 95061
  (408) 438-4060

Reproductive Health Programs Of Six School-Based Clinics represented one component of a comprehensive health program. They differed in their emphases on reproductive health, sexuality education, and family planning. Each clinic employed at least one physician and nurse practitioner and was located within the school.

Evaluation Design

Two approaches compared students in clinic schools with students in non-clinic schools. One study compared four schools that had clinics already open with demographically matched non-clinic schools. The other study was of two schools whose clinics were not yet open and collected cross-sectional pre-clinic data and two-year post-clinic data. Clinic records and student health surveys provided data.

Findings

- In one of the three sites providing contraceptives in the clinic, students were significantly more likely than comparison school students to use birth control during last intercourse.
- One clinic school with a strong AIDS education program observed a sharp increase in condom use.
- One clinic school with a strong pregnancy prevention component observed a higher use of condoms and birth control pills relative to its comparison school.
- Students in schools with clinics and students in schools without clinics had similar pregnancy rates.
- Students in schools with clinics did not engage in sexual activity earlier than students at schools without clinics.

D. Kirby, C. Waszak, and J. Ziegler, "Six School-Based Clinics: Their Reproductive Health Services and Impact on Sexual Behavior," *Family Planning Perspectives* 23, 1 (January/February 1991): 6-16.

SCHOOL-BASED ADOLESCENT HEALTH CARE PROGRAM MULTIPLE SITES

- **Purpose:** To increase access to health care for low-income adolescents; provide comprehensive, school-based services; and secure the commitment of community institutions to participate in and sustain school-based health centers
- **Targeted grade levels:** Ninth through twelfth
- **Population studied:** Students in 23 clinics at ethnically diverse high schools in 14 cities and 11 states (Alabama, California, Colorado, Florida, Louisiana, Michigan, Minnesota, New Jersey, New York, North Carolina, and Tennessee)
- **Program setting:** School-based clinic
- **Components:** *Clinical services*
  Health education
  Counseling and mental health services
  Community coordination
- **Date of evaluation:** 1987-1993
- **Involved agencies:** The Robert Wood Johnson Foundation; grantees in the 11 states listed above
- **Contact:**
  Julia Graham Lear, PhD
  School-Based Adolescent Health Care Program
  1350 Connecticut Avenue, NW
  Suite 505
  Washington, District of Columbia 20036
  (202) 466-3396

The School-Based Adolescent Health Care Program provided school-based health care, coordinated with other community services. The range of available services included treatment of acute illness and injury, mental health-related care, physical examinations, reproductive health care, and school-related services, including immunizations and vision/hearing screening, chronic disease management, skin care, dental care, and substance abuse programs. Nonclinical activities included school fair participation, crisis intervention, classroom education, parent education, teacher education, and dropout prevention.

Evaluation Design

Grantees operating the clinics have provided quarterly management information reports to The Robert Wood Johnson Foundation. Data from three years of these reports were analyzed to determine characteristics of patients, patient visits, and services provided.

Findings

- Of 34,106 students enrolled in clinic schools, 46% were clinic users, an average of 685 per clinic.
- The leading service provided was treatment of acute illness or injury (26% of total visits), followed by mental health-related care (21%). Reproductive health care accounted for only 12% of visits.
- There was a steady rise in parental consent for school-based care, from 34% in 1987 to 71% in 1989-90.

J. Graham Lear, H. Burness Gleicher, A. St. Germain, and P.J. Porter, "Reorganizing Health Care for Adolescents: The Experience of the School-Based Adolescent Health Care Program," *Journal of Adolescent Health* 12 (1991): 450-458.

SCHOOL HEALTH DEMONSTRATION PROGRAM
NEW YORK

- **Purpose:** To provide direct health care, health promotion/disease prevention, and health education to children from low-income communities with inadequate access to primary health care services
- **Targeted grade level:** Preschool through twelfth
- **Population studied:** Students from low-income communities in Buffalo, New York City, and Rochester, New York
- **Program setting:** Schools in conjunction with community health facilities and hospitals
- **Components:** *Clinical services*
  Health education
  Counseling and mental health services
  Community coordination
- **Date of evaluation:** 1982-1983
- **Involved agencies:** New York State Departments of Health, Education, and Social Services
- **Contact:**
  Michelle Cravetz
  Director
  School Health Program
  Bureau of Child and Adolescent Health
  New York State Department of Health
  Room 219, Corning Tower
  Albany, New York 12237-0618
  (518) 486-4966

The School Health Demonstration Program (SHDP) was a coordinated effort of the New York State Departments of Health, Education, and Social Services to provide primary health care to children from low-income families. *SHDP* used a school health team--usually a health aide and a nurse practitioner under the supervision of a pediatrician or family practice physician--to link children to a local health facility with medical, dental, and mental health counseling services. This link ensured continued care to children during nonschool hours and vacations and provided care for other family members as well. Parents elected the level of care on enrollment forms. The *SHDP* health education curricula covered a variety of topics, including dental health, family life education, poison prevention, and summer safety. Information was communicated through classroom sessions, newsletters, health fairs in the community, and parent-teacher meetings.

Evaluation Design

Researchers looked at data from the nine sites in which the *SHDP* was first implemented. Approximately 36,000 children attending 55 public, parochial, and other private schools were invited to participate; 22,689 enrolled.

Findings

- Most parents chose levels of care options that provided more than usual school health services. About 53% of the children were enrolled for comprehensive physicals or complete care.
- The *SHDP* had 83,602 encounters with children during the school term, including 38,514 screenings, 22,373 primary care services, 15,055 first aid visits and responses to minor complaints, 9,121 follow-up visits, 7,212 comprehensive physical exams, and 2,119 immunizations.
- Principals and teachers reported that they supported the program, appreciated having it as a quick-response resource for disease and unintentional injuries and felt the program had positive impacts on attendance and learning.

Evaluation of The New York State School Health Demonstration Program, September 1982-June 1983, EDRS Document Résumé ED 246 055, TM 840 172, New York State Department of Health, 1983.

CHAPTER IV

COUNSELING AND MENTAL HEALTH SERVICES

ADEPT DRUG AND ALCOHOL COMMUNITY PREVENTION PROJECT NEW ORLEANS, LOUISIANA

- **Purpose:** To enhance self-esteem, while improving school readiness and, as a result, to improve overall school performance and, ultimately, reduce risk of alcohol and other drug abuse for latchkey children who are at risk for substance abuse
- **Targeted grade level:** Kindergarten through sixth
- **Population studied:** Minority latchkey children from economically depressed areas of New Orleans
- **Program setting:** Classroom, gym, auditorium, and school grounds
- **Components:** *Counseling and mental health services*
  Health education
  Community coordination
- **Date of evaluation:** 1989-1990
- **Involved agencies:** New Orleans Public School System
- **Contact:**
  Sandra McCollum
  ADEPT
  New Orleans Public School System
  4100 Touro Street
  New Orleans, Louisiana 70122
  (502) 286-2983

The ADEPT Drug And Alcohol Community Prevention Project (ADACPP) focused on building self-esteem and improving decision-making skills, while providing information about alternatives to alcohol and other drugs through daily two-hour after-school sessions. The Me-Me Drug Prevention Program was used for esteem building and decision-making. Other activities included free play and homework assistance, creative dramatics given by a "drama itinerant artist," and presentations by inmates from correctional institutions.

Evaluation Design

Students were nominated by their teachers as fitting program criteria. Those whose parents failed to enroll them in the program constituted the control group. Student enrollment numbered 20 latchkey children at each of 24 project sites. To test the effectiveness of the esteem-building component, eight of the sites did not receive this component. All of the data sources, including parent and teacher surveys and school records, were used as pre- and post-tests.

Findings

- When program participants were compared to non-participants, there were no differences on measures of self-esteem, depression, and risk-taking nor on in-classroom behavior.
- Students who participated in programs with the self-esteem building component experienced educationally significant improvements on standardized achievement tests compared to students who participated in programs without the self-esteem building component.

J.G. Ross, P.J. Saavedra, G.H. Shur, F. Winters, and R.D. Felner, "Effectiveness of an After-School Program for Primary Grade Latchkey Students on Precursors of Substance Abuse," *Journal of Community Psychology* (1992): 22-38.

THE ADOLESCENT ALCOHOL PREVENTION TRIAL
LOS ANGELES AND ORANGE COUNTIES, CALIFORNIA

- **Purpose:** To deter the onset of substance use in youth
- **Targeted grade level:** Fifth and seventh
- **Population studied:** Seventh grade students in 12 junior high schools in Los Angeles and Orange Counties
- **Program setting**: Classroom
- **Components:** *Counseling and mental health services*
  Health education
- **Date of evaluation:** 1987-1989 (first test of strategies)
- **Involved agencies:** National Institute on Alcohol Abuse and Alcoholism
- **Contact:**
  William B. Hansen, PhD
  Department of Public Health Sciences
  Bowman Gray School of Medicine
  Winston-Salem,
  North Carolina 27157-1063
  (919) 716-6769

The Adolescent Alcohol Prevention Trial was an ongoing eight-year test of two strategies that seek to deter the onset of substance use in youth. These two strategies were first tested on one group of seventh graders. The first strategy, involving building peer resistance skills, included identifying social pressures and practicing refusal techniques. The second, focusing on correcting inaccurate perceptions about the prevalence and acceptability of alcohol use, included student surveys, and parent interviews as homework.

Evaluation Design

In the first test of the two strategies, schools were classified by size, test scores, and ethnic composition and then randomly assigned to receive one of four interventions: (1) information, (2) resistance training, (3) correction of erroneous perceptions (perceptual classes), and (4) a combination of the three. Students were pre-tested prior to the program, and post-tested one year after implementation.

Findings

- Students who received classes that corrected erroneous perceptions of acceptability of alcohol use had significantly reduced rates of alcohol consumption, marijuana use, and cigarette consumption.
- From pre-test to post-test the incidence of drunkenness among students in perceptual classes increased 4.2%. The rate of increase was 11.1% in other classrooms.
- The incidence of ever using alcohol increased 11% in perception-correcting classes versus 14.2% in other classrooms.
- Marijuana use increased 6.2% between pre- and post-test among students not receiving perception-correction classes, compared to an increase of only 2.2% in perception-correcting classes.

W.B. Hansen and J.W. Graham, "Preventing Alcohol, Marijuana, and Cigarette Use among Adolescents: Peer Pressure Resistance Training Versus Establishing Conservative Norms," *Prevention Medicine* 20 (1991): 414-430.

ALCOHOL MISUSE PREVENTION STUDY (AMPS)
MICHIGAN

- **Purpose:** To provide students with the social skills needed to prevent alcohol misuse
- **Targeted grade level:** Fifth and sixth
- **Population studied:** 49 schools in southeastern Michigan communities with populations ranging from 10,000 to 100,000
- **Program setting:** Classroom
- **Components:** *Counseling and mental health services*
  Health education
- **Date of evaluation:** 1984-1987
- **Involved agencies:** Michigan school system; National Institute on Alcohol Abuse and Alcoholism
- **Contact:**
  T.E. Dielman, PhD
  The University of Michigan
  Medical School
  G1210 Towsley Center
  Ann Arbor, Michigan 48109-0201
  (313) 763-1154

Alcohol Misuse Prevention Study (AMPS) actively involved students and offered positive reinforcements for their efforts to resist social pressures to misuse alcohol. Through didactic presentations, audiovisual materials, and videotaping during role-playing, students engaged in awareness and skills building exercises. Based on social learning theory, *AMPS* exercises focused on raising student awareness of social pressure to use and misuse alcohol, increasing students' refusal skills to do so, reducing susceptibility to peer pressure, and increasing self-esteem.

Evaluation Design

Schools were randomly assigned to treatment and control groups, with half of each group pre-tested prior to the intervention. Fifth-grade students were randomly assigned to treatment, treatment plus booster, and control groups. Sixth-grade students were randomly assigned to treatment and control groups. All students (4,911) were post-tested at two months, 14 months, and 26 months following intervention.

Findings

- Students participating in the intervention, who also had begun using alcohol in unsupervised settings prior to the intervention, had a significantly reduced rate of increase in the use and misuse of alcohol and their susceptibilitity to peer pressure than did their control group counterparts. This effect persisted through twelfth grade.
- Students participating in the prevention curriculum had a significantly higher awareness of information on alcohol.
- After the intervention, students in the pre-tested group reported less trouble with peers as a result of alcohol use and a higher level of internal health locus of control than students in the non-pre-tested group.

P.C. Campanelli, T.E. Dielman, J.T. Shope, A.T. Butchart, and D.S. Renner, "Pretest and Treatment Effects in an Elementary School-Based Alcohol Misuse Prevention Program," *Health Education Quarterly* 16, 1 (Spring 1989): 113-130.

T.E. Dielman, D.D. Kloska, S.L. Leech, and J.T. Shope, "Differential Effectiveness of a School-Based Alcohol Misuse Prevention Program: Treatment Condition, Prior Drinking Experience, and Grade Level at Program Delivery" *Health Education Quarterly*, in press.

Continued on next page

T.E. Dielman, J.T. Shope, S.L. Leech, and A.T. Butchart, "Differential Effectiveness of an Elementary School-based Alcohol Misuse Prevention Program," *Journal of School Health* 59, 6 (August 1989): 255-263.

T.E. Dielman, J.T. Shope, A.T. Butchart, and P.C. Campanelli, "Prevention of Adolescent Alcohol Misuse: An Elementary School Program," *Journal of Pediatric Psychology* 11, 2 (1986): 259-283.

T.E. Dielman, P.C. Campanelli, J.T. Shope, and A.T. Butchart, "Susceptibility to Peer-Pressure, Self-Esteem, And Health Locus of Control as Constants of Adolescent Substance Abuse," *Health Education Quarterly*, 14 (1987): 207-221.

I'M SPECIAL PROGRAM
MECKLENBURG COUNTY, NORTH CAROLINA

- **Purpose:** To delay or prevent the onset of student use of illegal substances
- **Targeted grade level:** Third and fourth
- **Population studied:** Students in grades five through twelve (who either had or had not participated in the I'm Special Program in third or fourth grade) in public and private schools in Mecklenburg County, North Carolina
- **Program setting:** Classroom
- **Components:** *Counseling and mental health services*
  Health education
- **Date of evaluation:** 1986
- **Involved agencies:** The Drug Education Center, Inc. (DEC); Junior League of Charlotte; Mecklenburg County School System
- **Contact:**
  Helen Harrill
  Training Coordinator
  The Drug Education Center, Inc.
  1117 E. Morehead Street
  Charlotte, North Carolina 28204
  (704) 375-3784

I'm Special Program (ISP) focused on developing a student's sense of self-worth, healthy social skills, and group cooperation. The rationale behind this approach toward drug use avoidance was grounded in theories of personal growth, social control, and social learning. The program consisted of nine 45- to 50-minute classroom sessions given weekly by DEC-trained teachers or school health personnel.

Evaluation Design

The study examined a stratified sample of 37 public and private schools, including an oversampling of schools that had implemented the program. School selection was driven by the willingness of individual principals to have their schools participate in the study. A total of 11,892 students were surveyed eight years after program inception.

Findings

- Alcohol, marijuana, cigarette, and other drug use was less common among the *ISP* participants than among those who did not participate.
- *ISP* participants were less likely than non-*ISP* students to engage in problem behaviors, such as absenteeism, using alcohol or other drugs at school, stealing, or other behaviors leading to school suspension or arrest.

S. Kim, J. McLeod, and C.L. Palmgren, "The Impact of the *I'm Special* Program on Student Substance Abuse and Other Related Student Behavior," *Journal Drug Education* 19, 1 (1989): 83-95.

LIFE SKILLS TRAINING
NEW YORK AND NEW JERSEY

- **Purpose:** To increase students' personal and social competence
- **Targeted grade level:** Seventh through ninth
- **Population studied:** Diverse populations from urban and suburban areas with varied demographics, in the states of New York and New Jersey
- **Program setting:** Classroom
- **Components:** *Counseling and mental health services*
  Health education
- **Date of evaluation:** 1980
- **Involved agencies:** New York City Department of Education
- **Contact:**
  Gilbert J. Botvin, PhD
  Cornell University
  Medical College
  411 East 69th Street
  New York, New York 10021
  (212) 746-1270

Life Skills Training (LST) Program was a psycho-educational approach designed to help students develop the skills needed to cope with social influences to smoke, drink, or use drugs. This approach was based on the theory that individuals with low self-esteem, low self-confidence, low personal autonomy, high anxiety, and a low sense of control would be most likely to begin smoking, drinking, or using drugs. The *LST* program included five components--knowledge, decision-making, self-directed behavior change, coping with anxiety, and social skills--each of which was covered in two to six sessions. Five- and nine-session booster curricula supplemented the program.

Evaluation Design

Several studies have tested the efficacy of the *LST* program. The effectiveness of different providers and of booster sessions has also been evaluated. These studies have involved a variety of different populations testing the impact on use of a number of gateway drugs.

Findings

- *LST* was effective in preventing onset of cigarette smoking among eighth to tenth graders (N=281) in two suburban schools. At the end of the program the *LST* group had 75% fewer smokers than the control group. At three-month follow-up there were 67% fewer smokers among the *LST* group.
- When the program was given by peer leaders to randomly assigned seventh graders, a self-report questionnaire and saliva samples determined that *LST* students were less likely to have started smoking.
- At follow-up one year later, *LST* students who had received the more intensive implementation schedule were less likely to smoke than other *LST* students. Furthermore, students who had received booster sessions were even less likely to be smokers.
- Nine months after the *LST* program, fewer *LST* students reported drinking during the past month, heavy drinking, or getting drunk one or more times a month.

Continued on next page

Findings, continued

- Post-tests of seventh graders from 10 suburban schools found that peer-led groups had significantly fewer experimental smokers or marijuana users than teacher-led groups.

- A one-year follow-up showed significantly fewer peer-led booster students were smoking and using marijuana. Depending on the measures used, there were 70% to 82% fewer smokers in the peer-led booster group, 69% to 78% fewer marijuana users; in the high fidelity teacher-led group, there were 44% to 50% fewer smokers, 47% fewer experimenters with marijuana, and 51% fewer drinkers. Teachers were more variable than peer leaders in the quality of their program implementation, suggesting that fidelity to the LST protocol yields more positive results.

G.J. Botvin, Alcohol Pilot Study (no publication details), undated.

G.J. Botvin, E. Baker, N. Renick, A.D. Filazzola, and E.M. Botvin, "A Cognitive-Behavioral Approach to Substance Abuse Prevention," *Addictive Behaviors* 9 (1984): 137-147.

G.J. Botvin and L. Dusenbury, "Life Skills Training: A Psychoeducational Approach to Substance-Abuse Prevention," in C.A. Maher and J.E. Zins (eds.) *Psychoeducational Interventions in Schools: Methods and Procedures for Enhancing Student Competence* (New York: Pergamon Press), 1987.

G.J. Botvin and A. Eng, "The Efficacy of a Multicomponent Approach to the Prevention of Cigarette Smoking," *Preventive Medicine* 11 (1982): 199-211.

G.J. Botvin, A. Eng, and C.L. Williams, "Preventing the Onset of Cigarette Smoking through Life Skills Training," *Preventive Medicine* 9 (1980): 135-143.

G.J. Botvin, J. Renick, and E. Baker, "The Effects of Scheduling Format and Booster Sessions on a Broad Spectrum Psychological Approach to Smoking Prevention," *Journal of Behavioral Medicine* 6 (1983): 359-379.

G.J. Botvin and S. Tortu, "Preventing Adolescent Substance Abuse through Life Skills Training," in R.H. Price, E.L. Cowen, R.P. Lorion, and J. Ramos-McKay (eds.) *Fourteen Ounces of Prevention* (Washington, DC: American Psychological Association), 1988.

PROJECT ALERT
CALIFORNIA AND OREGON

- **Purpose:** To curb adolescent drug use by motivating young people to resist drugs and by helping them acquire the skills to do so
- **Targeted grade level:** Seventh and eighth
- **Population studied:** Students from 30 schools in 8 urban, suburban, and rural communities (9 schools with minority populations of 50% or more and 18 schools in neighborhoods with household incomes below state medians) in California and Oregon
- **Program setting:** Classroom
- **Components:** *Counseling and mental health services*
  Health education
- **Date of evaluation:** 1984-1986
- **Involved agencies:** School districts in California and Oregon
- **Contact:**
  Phyllis L. Ellickson
  The RAND Corporation
  1700 Main Street
  Santa Monica, California 90406
  (310) 393-0411

Project ALERT, based on the social influence model of prevention, sought to help young people understand how drugs could affect them in their daily lives and in their relationships with others. The program comprised an eight-session curriculum for seventh graders, followed by a three-session booster when those students became eighth graders. The participatory curriculum focused on changing group norms about drug use, and helping students to identify pro-drug pressures and acquire a battery of resistance skills.

Evaluation Design

Investigators designed a case-control study with pre- and post-testing for 30 schools that represented a range of communities, socioeconomic status, and racial and ethnic composition. Schools were randomly assigned to one of three groups: control, program provided by an adult health educator, or program provided by an adult educator as well as teen leaders. Controlling for baseline covariant, evaluators compared subsequent drug use in the program groups with use in the control group. The curriculum was assessed at 3-, 12-, and 15-month intervals.

Findings

- After the eighth grade booster sessions, current smoking among students who had experimented with cigarette smoking before the program began declined by 17% in the teen leader schools and by 27% in the adult health educator schools.
- After the booster sessions, weekly cigarette use declined by 50% in the teen leader schools and by 33% in the health educator schools. Daily use dropped by over 50% in the teen leader schools.
- Among students who had not smoked marijuana or cigarettes at baseline, initiation of marijuana use was curbed by one-third and current use was 50% to 60% lower than projected in intervention schools.
- The *Project ALERT* social influence model of prevention is effective in preventing initiation and current use of cigarettes and marijuana smoking.

P.L. Ellickson and R.M. Bell, "Drug Prevention in Junior High: A Multi-Site Longitudinal Test," *Science* (16 March 1990): 1299-1305.

PROJECT PRIDE
PHILADELPHIA, PENNSYLVANIA

- **Purpose:** To increase student resistance to drug use and abuse through a 12-week series of small group counseling sessions
- **Targeted grade level:** Fifth through seventh
- **Population studied:** Students at high risk for drug abuse in 16 public schools in Philadelphia, Pennsylvania
- **Program setting:** Classroom
- **Components:** *Counseling and mental health services*
  Health education
- **Date of evaluation:** 1983-1986
- **Involved agencies:** Philadelphia School District; National Institute on Drug Abuse
- **Contact:**
  Leonard LoSciuto
  Institute for Survey Research
  Temple University
  1601 North Broad Street
  Philadelphia, Pennsylvania 19122
  (215) 204-8355

Project PRIDE (Positive Results In Drug Education) counseled students in small groups on developing self-awareness and life skills, educated teachers about drug abuse prevention, and offered training in parenting skills. Student counseling sessions used a standardized curriculum to cultivate self-esteem, healthy attitudes toward peer influence, relationships with significant adults, and decision-making skills.

Evaluation Design

A comparison study classified the target population by socioeconomic status and then randomly assigned schools and classes to program and control conditions. Evaluators assessed student attitudes with 72 questions about drugs. Teacher comments on 45 statements defined self-perceptions of teaching skills. Parents rated family environment and functioning items. A total of 743 students completed pre- and post-test measures.

Findings

- 75% of *PRIDE* students reported increased respect for themselves and their parents after participating in the program.
- Recent drug use increased less among students participating in the program than among control group students.
- *PRIDE* groups appeared to be more resistant to peer pressure on drugs after the intervention, while there was no change in the control group.
- *PRIDE*-trained teachers showed positive change in rating their teaching skills; control and nonparticipating teachers decreased in perceived skills.

L. LoSciuto and M.A. Ausetts, "Evaluation of a Drug Abuse Prevention Program: A Field Experiment," *Addictive Behaviors* 13 (1988): 337-351.

PROJECT SMART
LOS ANGELES, CALIFORNIA

- **Purpose:** To prevent the use of gateway drugs (i.e., tobacco, alcohol, and marijuana)
- **Targeted grade level:** Sixth, seventh, and eighth
- **Population studied:** Students from 63 junior high schools with significant Asian, African-American, and Hispanic populations in Los Angeles, California
- **Program setting**: Classroom
- **Components:** *Counseling and mental health services*
  Health education
- **Date of evaluation:** 1982-1985
- **Involved agencies:** Los Angeles Unified School District; National Institute on Drug Abuse
- **Contact:**
  Marny Barovich
  USC-IPR
  1000 S. Fremont, Suite 641
  Alahambra, California 91803-1358
  (818) 457-4000

Project SMART tested the efficacy of two curricula to prevent use of tobacco, alcohol, and marijuana. The first emphasized social resistance skills as a means of prevention and included peer pressure resistance training; correction of inaccurate perceptions of acceptability of tobacco, alcohol, and marijuana use; inoculation against mass media messages; and information about parental and other adult influences. The second focused on affective education as it applied to drug use, and included stress management, enhancement of self-esteem, values clarification, decision-making, and goal-setting. Health educators alternated with classroom teachers in presenting the 12 sessions of each program. Both programs featured the use of peer leaders as assistants.

Evaluation Design

Two studies used pre- and post-testing to compare the two curricular approaches. In the first study, 2,863 seventh graders from eight junior high schools completed paper-and-pencil pre- and post-tests. Trained staff collected saliva specimens to test for tobacco and marijuana use. The second study expanded on the first, involving students from 16 junior high schools. Selection of schools and assignment to study cohort were random.

Findings

- Social influences resistance training appeared to be the more effective approach to delaying the onset of tobacco, alcohol, and marijuana use.
- Overall prevention effects were strongest for cigarette smoking, but were also evident for alcohol and marijuana.
- Resistance training targeting prevention of tobacco, alcohol, and marijuana use was more effective among females than males. The program was at least as effective with Hispanics and African Americans as with whites and Asians.

W.B. Hansen, C.A. Johnson, B.R. Flay, J.W. Graham, and J. Sobel, "Affective and Social Influences Approaches to the Prevention of Multiple Substance Abuse among Seventh Grade Students: Results from Project SMART," *Preventive Medicine* 17 (1988): 135-154.

J.W. Graham, C. A. Johnson, W.B. Hansen, B.R. Flay, and M. Gee, "Drug Use Prevention Programs, Gender, and Ethnicity: Evaluation of Three Seventh-Grade Project SMART Cohorts," *Preventive Medicine* 19 (1990): 305-313.

SELF CENTER PROGRAM
BALTIMORE, MARYLAND

- **Purpose:** To raise the level of student knowledge regarding reproductive biology and pregnancy, postpone onset of intercourse where possible, increase the level of clinic attendance and contraceptive use among sexually active students, and re-duce the risk of pregnancy
- **Targeted grade level:** Seventh through twelfth
- **Population studied:** African-American students in junior and senior high schools living in public housing in inner-city Baltimore, Maryland
- **Program setting:** Classroom, health suite, storefront clinic
- **Components:** *Counseling and mental health services*
  Health education
  Clinical services
- **Date of evaluation:** 1981-1984
- **Involved agencies:** Baltimore Public School System; The Johns Hopkins University School of Medicine's Department of Pediatrics and Department of Gynecology and Obstetrics; Educational Foundation of America; Ford Foundation; W.T. Grant Foundation; Hewlett Foundation; C.S. Mott Foundation; J.S. Noyes Foundation
- **Contact:**
  Laurie Schwab Zabin
  Associate Professor
  Department of Population Dynamics
  The Johns Hopkins University School of Public Health
  Baltimore, Maryland 21287
  (410) 955-5753

Self Center Program was a cooperative undertaking of The Johns Hopkins University School of Medicine and the Baltimore City Departments of Education and Health. Program services included classroom presentations; educational and counseling services provided in health suites within the schools; and educational, counseling, and medical services provided after school in a nearby storefront clinic. Staff consisted of two teams of a social worker and a nurse-midwife or pediatric nurse practitioner, as well as clinic staff of a registrar, nurse's aide, or licensed practical nurse, and on some days, a physician.

Evaluation Design

A three-year study assigned 667 male and 1,033 female students in one junior high school and one senior high school to the program group. The other two schools (with 944 male and 1,002 female students) were assigned to the control group and provided baseline and end-of-project data. The progam group was surveyed before the program began and again in the spring of each of the following three years. The control group received questionnaires at the beginning and end of the program period.

Findings

- After 16 months' exposure to the program, pregnancies rose 13% among program females and 50% among controls. After 20 months, pregnancy rates fell 22.5% among progam females and rose 39.5% among controls. After 30 months, pregnancy rates among program females fell 30.1%, and increased 57.6% among controls.
- Males in the program groups showed a significant increase in knowledge about reproductive biology and pregnancy.
- After program exposure, less than 20% of program females participated in unprotected intercourse compared to 44-49% of controls.

L.S. Zabin, M.B. Hirsch, E.A. Smith, R. Streett, and J.B. Hardy, "Evaluation of a Pregnancy Prevention Program for Urban Teenagers," *Family Planning Perspectives* 18, 3 (May/June 1986): 119-126.

L.S. Zabin, M.B. Hirsch, R. Streett, M.R. Emerson, M. Smith, J.B. Hardy, and T.M. King, "The Baltimore Pregnancy Prevention Program for Urban Teenagers: I. How Did It Work?," *Family Planning Perspectives* 20, 4 (July/August 1988): 182-87.

THE SUPER II PROGRAM
ATLANTA, GEORGIA

- **Purpose:** To increase participants' knowledge of drugs and communication techniques, youth assertiveness and peer resistance, family functioning, as well as parents' ability to talk to their children about drugs
- **Targeted grade level:** Sixth through twelfth
- **Population studied:** High-risk minority urban youth served by community service agencies within a 20-mile radius of the center of Atlanta, Georgia
- **Program setting:** Community service agency
- **Components:** *Counseling and mental health services*
  Health education
  Community coordination
- **Date of evaluation:** 1987
- **Involved agencies:** Metropolitan Atlanta Council on Alcohol and Drugs; Atlanta School District
- **Contact:**
  Gregg Raduka
  MACAD
  2045 Peachtree Street
  Atlanta, Georgia 30309
  (404) 351-1800

The SUPER II Program provided information and skill-building to youth and their parents through seven two-hour sessions held at community agency sites, usually on weekday evenings, during a two- or three-week period. Presenters used a variety of instructional techniques, including lecture, video, role-playing, didactic, and interactive. The program focused on increasing parent-child communication, youths' assertiveness and self-esteem, parents' esteem for youth, resistance of youth to drug use, family functioning, and decreasing drug use by youth, modes by which drugs were used, frequency of use, and resultant behavioral problems.

Evaluation Design

Investigators used pre- and post-tests to evaluate three types of variables: (1) process, or program delivery; (2) short-term outcomes; and (3) long-term outcomes. Pre-test questionnaires were given to 290 youth, and 249 took the post-test. Among parents/surrogates, 196 took the pre-test and 157 the post-test.

Findings

- After the program, parents reported a significant increase in family functioning and in the esteem they had for youth.
- A three-month follow-up showed significant decreases in the frequency of substance use and number of drug use modes used.
- For the youth, scores on knowledge of communication techniques increased from 41% to 48%; scores on the knowledge of licit and illicit drugs increased from 62% to 68%. However, the mean peer resistance score decreased from 4.68 to 4.55 overall.
- For parents, the mean correct responses for drug knowledge increased from 72% to 84% and for knowledge of good communication, from 68% to 75%.

C. Bruce and J. Emshoff, "The Super II Program: An Early Intervention Program," *Community Psychology* (1992): 10-21.

YOUTH DEVELOPMENT AND SUBSTANCE USE PREVENTION PROGRAM EAST AURORA, NEW YORK

- **Purpose:** To prevent substance use and increase student knowledge and awareness of health risks associated with substance use, eating disorders, and other behaviors
- **Targeted grade level:** Kindergarten through twelfth
- **Population studied:** Students in the seventh through twelfth grades in East Aurora, New York
- **Program setting:** Classroom, school auditorium, community agencies
- **Components:** *Counseling and mental health services*
  Health education
  School food programs
  Community coordination
- **Date of evaluation:** 1984-1991
- **Involved agencies:** East Aurora School District, Board of Education, and Police Department; Town of East Aurora,
- **Contact:**
  Dr. Ronald Andrea
  Director of Pupil Personnel Services
  East Aurora Union Free School District
  430 Main Street
  East Aurora, New York 14052
  (716) 652-1000

The Youth Development And Substance Use Prevention Program alerted students to health risk issues through myriad activities. Programs included *DARE* (Drug Abuse Resistance Education), *Banana Splits* (peer support for students with parents separated, divorced, or deceased), and *POPS* (Power Of Positive Students). The program focused on empowering individuals to make healthy lifestyle choices through improved self-esteem and coping skills.

Evaluation Design

There were four data sources and analyses: (1) student reports after activities; (2) anonymous eating disorder surveys of nearly 740 seventh- through twelfth-grade physical education students completed in 1984 and again in 1989; (3) pre- and post-tests for the *DARE* program in 1990-1991; and (4) a substance abuse survey of high school students in November 1991.

Findings

- The frequency of unhealthy dieting practices decreased dramatically over five years.
- *Banana Splits* participants reported positive feelings about the chance to understand and express feelings.
- Through *DARE*, alcohol and drug use knowledge increased 35% from pre-test to post-test, rising to 95% correct responses on post-test.
- 65% of high school students surveyed in November 1991 indicated that the school system had given them sufficient information with which to make informed drug use decisions.

Dr. Ronald Andrea, Director of Pupil Personnel Services, East Aurora Union Free School District, provided information on the East Aurora program in a communication dated October 1992.

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CHAPTER V

SCHOOL ENVIRONMENT

SOLID WASTE REDUCTION PROGRAM
BATON ROUGE, LOUISIANA

- **Purpose:** To implement environmentally friendly cafeteria practices and thus reduce costs associated with solid waste removal from schools
- **Targeted grade level:** Kindergarten through eighth
- **Population studied:** Students, administrators, and food service personnel in two elementary schools and four middle schools in East Baton Rouge Parish, Louisiana
- **Program setting:** Cafeterias
- **Components:** *School environment*
  School food programs
- **Date of evaluation:** 1989-1992
- **Involved agencies:** East Baton Rouge Parish School System; Texas Woman's University; Dupont Canada, Inc.
- **Contact:**
  Melba D. Hollingsworth, MS
  Child Nutrition Supervisor
  Ascension Parish School Board
  School Food Service
  PO Box 189
  Donaldsonville, Louisiana 70346
  (504) 473-7981
  for solid waste study

  Nadine L. Mann, PhD, LDN, RD
  Child Nutrition Program Supervisor
  East Baton Rouge Parish School Board
  School Food Service
  6003 Choctaw Drive
  Baton Rouge, Louisiana 70805
  (504) 358-3606
  for recycling study

The East Baton Rouge Solid Waste Reduction Program instituted environmentally friendly solid waste practices in the parish schools. The program included the recycling of aluminum cans and newspapers, corrugated cardboard and steel cans, and computer and white bond paper. A unique feature of this program, the packaging of milk in compact polyethylene pouches, involved the cooperation of a packaging company and a local dairy.

Evaluation Design

Investigators sought to determine the impact of serving milk in polyethylene (PE) pouches rather than in cardboard cartons on the volume of solid waste generated by the schools studied. During a baseline period of 10 days milk was served in half-pint cardboard cartons. A 10-day intervention period followed, when milk was served in PE pouches. Representatives of a dairy and of a packaging compa..y explained the benefits of the PE pouch in grade-level presentations in classrooms or in assemblies. Data on number of cartons sold, weight of waste of both leftover milk and packaging, and number of participants for breakfast and lunch were collected during the baseline and intervention periods. In addition, students, food service managers, and principals rated acceptability of PE pouches on a scale where 1 = poor and 5 = great.

Findings

- The volume of solid waste from the packing decreased about 50% at breakfast and 72% at lunch when milk was served in PE pouches.
- The mean acceptability rating for 3,303 students was 3.68 on a five-point scale.
- Significant amounts of solid waste were diverted from the local landfill when the East Baton Rouge Parish schools changed to serving milk in the PE pouches and implemented the recycling program. During the 1992 school year the parish diverted from the local landfill, 10 million cardboard milk cartons a year, 30 tons of cardboard packing cases a month, and 5 1/2 tons of tin cans a month.
- The program enhanced community and student awareness of environmentally conscious practices.

M.D. Hollingsworth, C.W. Shanklin, B. Gench, and M. Hinson, "Effect of Type of Packaging on Acceptability and Volume of Solid Waste for the Milk Component in School Food Service Programs," *School Food Service Research Review* 14, 2 (1990): 86-89.

Correspondence from School Food Service Department, East Baton Rouge Parish School System, May 15, 1993.

CHAPTER VI

SCHOOL FOOD PROGRAMS

THE EXETER-ANDOVER PROJECT
EXETER, NEW HAMPSHIRE, and ANDOVER, MASSACHUSETTS

- **Purpose:** To modify dietary intake of sodium and fat through environmental intervention
- **Targeted grade level:** Ninth through twelfth
- **Population studied:** Students at two coeducational boarding high schools in Exeter, New Hampshire, and Andover, Massachusetts
- **Program setting:** Cafeteria
- **Components:** *School food programs*
  Health education
- **Date of evaluation:** 1984-1988
- **Involved agencies:** Private schools; Proctor & Gamble Co.; Kraft, Inc.; Oscar Mayer Foods Corporation; Schlotterbeck and Foss; Waltham Beef Company; Campbell Soup Company; Frito-Lay, Inc.; Harvard Human Nutrition Program; National Heart, Lung, and Blood Institute
- **Contact:**
  R. Curtis Ellison, MD
  Boston University School of Medicine
  University Hospital, Room B-612
  88 E. Newton Street
  Boston, Massachusetts 02118
  (617) 638-8080

The Exeter-Andover Project involved in-service training of food service personnel and purchasing and preparation of modified foods at Phillips Exeter Academy and Phillips Academy, Andover, for two separate two-year intervention trials. Dining halls featured reduced-sodium (first study) or modified-fat (second study) foods alternately for one school year at each school. Cooperating manufacturers researched and developed new dietary products. Students were not advised of the changes or asked to modify their eating patterns or nutrient intake.

Evaluation Design

The first study compared blood pressure readings of students at two schools over two years while, alternately, all students at each school received either usual foods or foods with a reduced-sodium content for the school year (after a baseline period of usual foods at both schools). Evaluators monitored blood pressure among all students taking basic science courses at each school; such students periodically completed 24-hour food diaries throughout the school year. Trained dietitians analyzed food diaries and recipes. Computerized records tracked blood pressure obtained weekly using automatic devices throughout the school year. In a second study during the following two years, diet was returned to its usual sodium content at both schools while modifications were made in the polyunsaturated/saturated (P/S) fat content of the diet alternately at each school during an intervention year (with the other school serving as control with usual P/S ratio of foods).

Findings

- Food preparation changes in the first study led to 15-20% less sodium intake of students. Reduced-sodium foods were well accepted.
- With reduced sodium, both males and females showed lower systolic and diastolic blood pressures than controls (statistically significant for all but males' systolic).

Continued on next page

Findings (continued)

- Food preparation changes in the second study led to marked increased in P/S ratio of diet (0.53 to 0.93 for males, 0.64 to 0.98 for females). Modified foods were well accepted.

- No consistent effects on blood pressure were noted from modification of P/S ratio (no significant effects for systolic in males or for either systolic or diastolic in females; slight increase in diastolic pressure in males).

- Changes in foods offered in an institutional setting can lead to substantial changes in sodium and fat intake of students. Reduced-sodium foods may result in lower blood pressure of students.

R.C. Ellison, A.L. Capper, W.P. Stephenson, R.J. Goldberg, D.W. Hosmer, Jr., K.F. Humphrey, J.K Ockene, W.J. Gamble, J.C. Witschi, and F.J. Stare, "Effects on Blood Pressure of a Decrease in Sodium Use in Institutional Food Preparation: The Exeter-Andover Project," *Journal of Clinical Epidemiology* 42 (1989): 201-208.

R.J. Goldberg, R.C. Ellison, D.W. Hosmer, and et al., "Effects of Alternations in Fatty Acid Intake on the Blood Pressure of Adolescents: The Exeter-Andover Project," *American Journal of Clinical Nutrition* 56 (1992): 71-76.

CHAPTER VII

PHYSICAL EDUCATION AND FITNESS

EVERY CHILD A WINNER
MULTIPLE SITES

- **Purpose:** To improve fitness levels of young school-age children through developmental movement experiences
- **Targeted grade levels:** Kindergarten through third
- **Population studied:** Kindergarten through third-grade students at five sites (each having approximately 500 students and a population that was 40% white, 50% African American, 5% Asian, and 5% other) in Florida, Georgia, Kentucky, and Maine
- **Program setting:** Physical education classes
- **Components:** *Physical education and fitness*
- **Date of evaluation:** 1989-1990
- **Involved agencies:** Education Excellence, Inc.; U.S. Department of Education; National Diffusion Network of Innovative Programs
- **Contact:**
  Martha F. Owens
  Director
  Every Child A Winner
  PO Box 141
  Ocilla, Georgia 31774
  (912) 468-7098

Every Child A Winner With Physical Education (ECAW) program used the concepts of space awareness, body awareness, qualities of movement and relationships as the basis for child-designed games, child-designed gymnastics sequences, and child-designed dance. The discovery learning or indirect teaching method was used to encourage critical thinking, one of the National Goals for Education. Children were given movement tasks which could be solved individually or within a group. Cooperation and competition were handled developmentally through educational games, educational dance, and educational gymnastics. Children were encouraged to reach their personal potential and winning occurred when each child did his or her best. A variety of solutions successfully answered each task posed by the teacher so children would not feel pressured or become embarrassed in the *ECAW* program.

Evaluation Design

Children in the program at the five sites (*ECAW* groups) were matched with nearby children (control groups). The Washington State Physical Fitness Test was administered to 2,536 students to examine muscular power of leg extensors, abdominal strength in curl-ups, arm and shoulder strength as shown in bench push-ups, and speed as shown in the 30-yard dash. Testing took place at the beginning and end of the school year. The objectives of the evaluation were to compare *ECAW* and control groups with each other and with national norms and determine the effect of maturation on results.

Findings

- Students participating in *ECAW* showed improved fitness over time, beyond the improvements expected with maturation alone.
- *ECAW* students scored favorably when compared with national norms, with mean scores generally between the 50th and 85th percentile.

T. Baumgartner and S. Darracott, "Every Child a Winner," Impact Study: a submission to the Program Effectiveness Panel, U.S. Department of Education; 15 pages, shortened, approved 3/29/91.

Continued on next page

M. Owens, "Every Child A Winner," *The Humanistic and Mental Health Aspects of Sports, Exercise, and Recreation*, Chicago: American Medical Association (1975): 57-60.

M. Owens, "Developing and Disseminating a Curriculum Model--Implications for Professional Preparation," *Physical Education Professional Preparation: Insight and Foresights*, Proceedings of the Second National Conference on Preparing the Physical Education Specialist for Children, American Alliance for Health, Physical Education, and Dance, Reston, Virginia (1986).

M. Owens, "Mainstreaming in the Every Child a Winner Program," *Journal of Physical Education, Recreation, and Dance*, AAHPERD, Washington, D.C., (September 1981): 16-18.

EXERCISE PROGRAMS FOR CHILDREN
MICHIGAN

- **Purpose:** To reduce children's risk factors for coronary heart disease
- **Targeted grade levels:** First through second
- **Population studied:** Students in two similar, blue-collar communities (both 99% white) in Michigan
- **Program setting:** Summer day care, school classroom, school playground
- **Components:** *Physical education and fitness*
- **Date of evaluation:** 1979
- **Involved agencies:** American College of Sports Medicine; University of Michigan, Ann Arbor; National Institutes of Health
- **Contact:**
  Thomas B. Gilliam, PhD
  INRTEK
  110 W. Streetsboro Street
  Suite 2A
  Hudson, Ohio 44236

Exercise Programs For Children provided eight months of exercise and education about exercise, nutrition, and coronary heart disease (CHD). Aerobic exercise, offered four times a week, consisted of a 25-minute vigorous workout, including aerobic dance, running, rhythmic activities, and jumping rope. Classroom education took place in one weekly, 20-minute session, which was reinforced during the aerobics classes.

Evaluation Design

In one community 26 children received the exercise program, while in another community 33 children served as a control group, receiving the normal physical education class once a week. Baseline measures of height, weight, skinfold, and resting heart rate were taken for both groups. Daily physical activity patterns of both groups were determined by heart rate devices and monitors. These were worn from 8 a.m. to 8 p.m. by one child from each group selected randomly each day. The child's parents completed an exercise log on the day the device was worn.

Findings

- Aerobics sessions with the experimental group produced higher mean heart rates than did regular physical education sessions with the control group (156 beats/minute versus 136 beats/minute).
- Children's daily activity patterns can be modified through intervention. Experimental group children were more likely to engage in vigorous physical activity during free time as well as during program aerobics.
- Girls, while statistically less active than boys, substantially increased their activity levels through the encouragement of such programs.

T.B. Gilliam, S.E. MacConnie, D.L. Geneen, A.E. Pels III, and P.S. Freedson, "Exercise Programs for Children: A Way to Prevent Heart Disease?," *The Physician and Sportsmedicine* 10, 9 (September 1982): 96-108.

FUTURE FIT
SAN FRANCISCO, CALIFORNIA

- **Purpose:** To provide a low-cost health education and fitness program for elementary school children
- **Targeted grade levels:** Third and fourth
- **Population studied:** Children at two after-school centers (one serving a predominantly Hispanic population, the other largely African American, for a sample that was 60% female and 93% nonwhite) in San Francisco, California
- **Program setting:** Classroom, playground
- **Components:** *Physical education and fitness*
  Community coordination
- **Date of evaluation:** 1985
- **Involved agencies:** San Francisco Unified School District Child Development Program; American Heart Association, San Francisco Chapter; Pacific Presbyterian Medical Center
- **Contact:**
  Lynn Smith
  Future Fit Project
  American Heart Association
  San Francisco Chapter
  120 Montgomery Street
  Suite 1650
  San Francisco, California 94104
  (415) 433-2273

Future Fit, developed by the Pacific Presbyterian Medical Center and the American Heart Association, San Francisco chapter, was a 12-week physical fitness curriculum designed for after-school programs. It included group learning activities and an aerobic exercise program. The objective of the aerobic sessions was to elevate heart rates to a training level (160-175 beats/minute) and maintain that rate for 20 minutes.

Evaluation Design

Children were given free medical screening to rule out health problems that might preclude their participation. Written pre- and post-tests measured knowledge of the cardiovascular system and healthy lifestyles in 55 students randomly assigned to program or control groups. After-school teachers conducted attitude surveys of program students, usually in groups. Teachers monitored pulse rates manually in two children randomly selected at each aerobics session. At the end of the program, parents were asked to complete a brief questionnaire.

Findings

- Participants improved their knowledge of cardiovascular health, with correct answers rising from 50% in pre-test to 67% post-test.
- Parents reported that most children had talked to them about the *Future Fit* program, describing both the health lessons and the exercise.

M.K. Connor, L.G. Smith, A. Fryer, S. Erikson, S. Fryer, and J. Drake, "Future Fit: A Cardiovascular Health Education and Fitness Project in an After School Setting," *Journal of School Health* 56, 8 (October 1986): 329-333.

GO FOR HEALTH
TEXAS CITY, TEXAS

- **Purpose:** To foster healthful physical activity and diet behavior among elementary school children, and create an environment supportive of healthful physical activity and eating
- **Targeted grade level:** Third and fourth
- **Population studied:** Students in four ethnically diverse elementary schools in Texas City, Texas
- **Program setting:** Gymnasium, cafeteria, classroom
- **Components:** *Physical education and fitness*
  Health education
  School food programs
- **Date of evaluation:** 1985-1987
- **Involved agencies:** Texas City, Texas, school system; National Heart, Lung, and Blood Institute
- **Contact:**
  Guy S. Parcel, PhD
  Professor & Director
  Center for Health Promotion Research and Development
  The University of Texas Science Center
  PO Box 20186
  Houston, Texas 77225
  (713) 752-8598

Go For Health incorporated classroom health education, food service, and *Children's Active Physical Education (CAPE)* in a coordinated program of environmental and behavioral intervention. The health education component had modules specialized by grade level and varying from four to six weeks each. Methods included modeling (through role playing, stories, and demonstrations), self-monitoring, contracting to try new behaviors, skills development, games, verbal praise, and material rewards. Stickers, charts, and food selection labels ("Go," "Slow," and "Whoa") motivated students. Messages were reinforced throughout the school by posters and displays. School meals, modified to reduce fat and salt, and physical education provided students with the opportunity to practice behaviors addressed in classroom sessions.

Evaluation Design

Two schools received *Go For Health* and two did not. Cognitive measures and self-reported diet and exercise behaviors of students were assessed before and after the program. Students completed artwork-enhanced questionnaires administered to the same students over five consecutive week days. Staff observed random samples of children during physical education classes on the same days as self-reports.

Findings

- Participation in moderate to vigorous physical activity increased.
- Students improved their knowledge of healthful food choices in a variety of scenarios, e.g., lunch, dinner with parents, a snack.
- Self-reported salt use declined.
- Student selection of fruits and vegetables increased significantly.

G.S. Parcel, B. Simons-Morton, N.M. O'Hara, T. Baranowski, and B. Wilson, "School Promotion of Healthful Diet and Physical Activity: Impact on Learning Outcomes and Self-Reported Behavior," *Health Education Quarterly* 16, 2 (Summer 1989): 181-199.

B.G. Simons-Morton, G.S. Parcel, T. Baranowski, L. Forthofer, N.M. O'Hara, "Promoting Healthful Diet and Physical Activity among Children: Results of a School-Based Intervention Study," *American Journal of Public Health* 81, 8 (1991): 886-991.

CHAPTER VIII

FACULTY AND STAFF HEALTH PROMOTION

HEALTH ENHANCEMENT PROGRAM (HEP)
NEW YORK CITY, NEW YORK

- **Purpose:** To improve the morale and job satisfaction of teachers, reduce absenteeism, and improve the physical and mental health of the school district's professional staff
- **Targeted grade level:** Faculty and staff members
- **Population studied:** Teachers in 11 elementary and 4 junior high schools serving children of low-income and ethnically diverse inner-city residents in New York City Community School District 6
- **Program setting:** School meeting room
- **Components:** *Faculty and staff health promotion*
- **Date of evaluation:** 1984-1985
- **Involved agencies:** Community School District 6, New York City Board of Education
- **Contact:**
  John P. Allegrante, PhD
  Teachers College
  Columbia University
  525 West 120th Street
  New York, New York 10027
  (218) 678-3760

Health Enhancement Program (HEP) targeted the health-related needs of teachers and other school personnel. *HEP* attracted participants with school-based orientation fairs and assemblies. It provided self-assessment questionnaires, health risk appraisal, and medical screenings. Based upon results, *HEP* developed targeted interventions modeled after successful corporate workplace health promotion programs.

Evaluation Design

The evaluation study included 10 schools that each received at least one *HEP* program and five comparison schools that received no special programming. In each school, teachers were surveyed and rated the work environment, job satisfaction, and perceived school quality through agreement-disagreement statements. Evaluation data sources included responses to questions (pre-test) by 223 teachers in the program schools, responses to these same questions in the following spring (post-test) by 104 teachers in program schools and by 66 teachers in comparison schools, and records of teacher absences.

Findings

- *HEP* significantly improved the morale of teachers.
- Teachers in program schools more often rated the overall quality of their schools as "excellent," and rarely rated their schools as "poor."
- Analyses of pre-test to post-test comparisons within the program schools revealed a significant improvement in teachers' sense of empowerment after *HEP* implementation.

J.P. Allegrante and J.L. Michela, "Impact of a School-Based Workplace Health Promotion Program on Morale of Inner-City Teachers," *Journal of School Health* 60, 1 (January 1990): 25-28.

HEALTH PROMOTION FOR EDUCATORS
DALLAS, TEXAS

- **Purpose:** To determine the impact of a worksite health promotion program on employee absenteeism
- **Targeted grade level:** Faculty and staff members
- **Population studied:** Employees of the Dallas School District
- **Program setting:** Schools
- **Components:** *Faculty and staff health promotion*
  Health education
- **Date of evaluation:** 1982-1983
- **Involved agencies:** Cooper Institute for Aerobics Research; Dallas Independent School District
- **Contact:**
  Brenda S. Mitchell, PhD
  Director of Behavioral Science and Health Promotion
  Cooper Institute for Aerobics Research
  12330 Preston Road
  Dallas, Texas 75230
  (214) 701-8001

Health Promotion For Educators provided group exercise and health education classes focusing on diet, weight control, stress management, and smoking cessation. Participants met individually with a project staff member to review their fitness evaluations and to set specific goals. Counseling on diet, smoking cessation, stress management, and weight loss was available on an individual basis.

Evaluation Design

Two studies examined program effects. In one study three groups pre-tested before the program began; each group started the program at a different time. This approach afforded control comparisons for evaluating the program's effect on health behaviors and clinical status. Computer tapes from the district personnel office provided demographic and absenteeism data. Of the 12,136 employees, 3,846 enrolled in the program and 2632 were available for post-testing. The second study examined overall program effects, assigning three schools as program schools and one as a control. Researchers measured knowledge with a 30-item multiple choice test, exercise participation with a self-administered seven-day physical activity recall, self-concept with the Bill Index of Adjustment, physical fitness with a treadmill exercise, and other lifestyle factors with extractions from medical histories. Principals completed stress management scales for all program and control group teachers.

Findings

- Participants had an average of 1.25 days less absenteeism during the study year than nonparticipants.
- Program school teachers reported better lifestyles (44%) and better diets (68%), as well as quitting smoking (18%), as a result of the program.
- Program school teachers increased fitness knowledge, exercise participation, treadmill time, and physical fitness (except for flexibility) and decreased body fat and weight more than control school teachers.

S.N. Blair, M. Smith, T.R. Collingwood, R. Reynolds, M.C. Prentice, and C.L. Sterling, "Health Promotion for Educators: Impact on Absenteeism," *Preventive Medicine* 15 (1986): 166-175.

S.N. Blair, T.R. Collingwood, R. Reynolds, M. Smith, D. Hagan, and C.L. Sterling, "Health Promotion for Educators: Impact on Health Behaviors, Satisfaction, and General Well-Being," *AJPH* 74, 2 (February 1984): 147-149.

HEALTH PROMOTION PROGRAM FOR SCHOOL PERSONNEL
TEXAS

- **Purpose:** To train educators to help other school employees maintain and improve their health
- **Targeted grade levels:** Faculty and staff members
- **Population studied:** Principals, teachers, nurses, and special education counselors who volunteered for training, from 11 school districts in 7 counties in Texas
- **Program setting:** Schools
- **Components:** *Faculty and staff health promotion*
- **Date of evaluation:** 1980-1983
- **Involved agencies:** University of Texas School of Public Health; Region IV Education Service Center (Texas); Texas Education Agency
- **Contact:**

Vilma T. Falck
Associate Professor, Behavioral Sciences
The University of Texas School of Public Health
PO Box 20186
Houston, Texas 77025
(713) 792-4411

Health Promotion Program For School Personnel trained school personnel to facilitate self-help health programs in school settings. A university training team provided five full-day Saturday sessions over a seven-week training period. Criteria used to select facilitators from the trainee group included experience with adult education, leadership and role model potential, good communication skills, and administrative support and backing.

Evaluation Design

To test the premise that facilitators can extend health training to their colleagues, the study matched the original 32 trainees with nontrainees, based on age, sex, race, professional position, marital status, educational level, and years in education. Both trainees and nontrainees took pre- and post-tests. At the final session, trainees set personal health goals. They were contacted by telephone two months later about success in meeting those goals.

Findings

- Following the intervention, trainees showed an increased and stronger belief than comparisons that they had control over their own health.
- Stress levels of trainees remained stable, while stress levels increased in the comparison group.
- Trainees, when monitored after two months, had a mean success rate of 8.3 on a scale of 1 (low) to 10 (high) in reaching personal health goals. (Control group members did not set goals.)
- Of 32 volunteers, 15 met criteria to serve as facilitators of self-help groups of school personnel.

V.T. Falck and M.E. Kilcoyne, Jr., "A Health Promotion Program for School Personnel," *Journal of School Health* 54, 7 (August 1984): 239-243.

CHAPTER IX

COMMUNITY COORDINATION

HEALTHY LIFESTYLES PROGRAM
BATTLECREEK, MICHIGAN

- **Purpose:** To promote attitudes and behavior consistent with a healthy lifestyle and to improve the quality of life by focusing on the total well-being of the individual
- **Targeted grade level:** Kindergarten through twelfth
- **Population studied:** Students, school staff, and parents in four public and four private school districts
- **Program setting:** School, community walking/jogging courses
- **Components:** *Community coordination*
  Health education
  School food programs
  Physical education and fitness
  Faculty and staff health promotion
- **Date of evaluation:** 1985-1988
- **Involved agencies:** Public and private school systems; W.K. Kellogg Foundation; community agencies; corporate sponsor (TCBY Yogurt); parents; and providers
- **Contact:**
  Judy Berryman
  Healthy Lifestyles Project Director
  Lakeview School District
  15 Arbor Street
  Battle Creek, Michigan 49015
  (616) 965-9483

Healthy Lifestyles represented a comprehensive community commitment to improve the well-being of young people. Students, school staff, and parents participated in health fairs, screenings, special contests, and classroom presentations. Competitions, including *Traction for Action, Pumpkin Prance,* and *Staff Shape-Up,* embodied the program's emphasis on teaching children through teacher/staff role-modeling. The program provided fitness instruction and evaluation, exercise, and nutrition education. Instruction was reinforced with changes in school lunches and treats that were consistent with a healthy lifestyle. The community's commitment to the program was evidenced by the support of community agencies, such as the Calhoun County Health Department, Kellogg Community College, Battle Creek Y- Center, United Way, South Central Substance Abuse Commission, Urban League, Washington Heights Ministries, and the Battle Creek Police Department.

Evaluation Design

Students in third, sixth, and ninth grade took four risk-factor tests in a baseline determination study. The risk factors included knowledge, attitudes, and behavior regarding nutrition, physical fitness, substance abuse, and stress management. Trained staff also checked student cholesterol levels. In addition, students in twelfth grade were added to the study group for physical fitness testing using the innovative "Fitness Gram" instrument. Parents received a special report card of student results.

Findings

- School districts enjoyed increased parental support for the total school program and for school staff.
- There was a reduction in staff absenteeism, representing a savings of $8,000 from substitute teacher salaries from 1985-1988.
- The nutritious school lunch program was one of the most effective program components. In the first year, one school district reported an increase of 10,000 lunches sold.

P. Williams and J. Kubik, "Battle Creek (Michigan) Schools 'Healthy Lifestyles' Program," *Journal of School Health* 60, 4(April 1990): 142-146.

THE MIDFIELD HIGH SCHOOL SAFETY BELT INCENTIVE PROGRAM BIRMINGHAM, ALABAMA

- **Purpose:** To increase safety belt use among high school students
- **Targeted grade level:** Ninth through twelfth grade students, faculty, staff, and parents
- **Population studied:** Students, faculty, staff, and parents at a suburban high school in Birmingham, Alabama
- **Program setting:** Classroom, school assemblies, school sporting events, cafeteria, campus parking lot, community
- **Components:** *Community coordination* Health education
- **Date of evaluation:** 1990
- **Involved agencies:** Midfield High School; Midfield Police Department; Midfield City Council; Alabama Department of Public Health; and other sponsors that included 12 other local public and private organizations and 21 businesses with national affiliations
- **Contact:**

G. Greg Wojtowicz, PhD
Assistant Professor
University of North Carolina
at Charlotte
Department of Health and Physical Education
Charlotte, North Carolina 28223
(704) 547-4702

The Midfield High School Safety Belt Incentive Program was a school- and community-wide effort to increase seat belt use. Integral to the program were incentive awards provided by local and national sponsors. Students learned about the benefits of seat belt use and the incentive program through *Support Safety Belt Use* assemblies, health education classes, homeroom periods, sporting events, poster contests, *Safety Belt Awareness Week*, and lunch periods. Parents received letters about the program, and newspapers featured articles about it. Local law enforcement personnel distributed on-the-spot incentive awards to those found to be wearing seat belts around the campus and in the community.

Evaluation Design

Seeking to reach an entire community, researchers used a single-treatment (only one group existed; all members received the program) study design. Surveys determined student knowledge, attitudes, and behavior, and observers (both obtrusive and unobtrusive) recorded seat belt use on campus. Pre- and post-test assessment scores were obtained for 645 students.

Findings

- Observed seat belt use increased from 26% at baseline to 38% at final observation, one month after the end of the program.
- Student knowledge of the benefits of seat belt use increased 12%.

G.G. Wojtowicz, L.A. Peveler, J.M. Eddy, S.B. Waggle, and E.C. Fitzhugh, "The Midfield High School Safety Belt Incentive Program," *Journal of School Health* 62, 9 (November 1992): 407-410.

THE MINNESOTA SMOKING PREVENTION PROGRAM NORTH DAKOTA AND MINNESOTA

- **Purpose:** To prevent adolescent tobacco use by influencing the social and psychological factors that encourage the onset of smoking
- **Targeted grade level:** Sixth
- **Population studied:** Youth living in Fargo and West Fargo, North Dakota, and Moorhead, Minnesota, who were participating in the Minnesota Heart Health Program
- **Program setting:** Classroom
- **Components:** *Community coordination*
  Health education
- **Date of evaluation:** 1983-1989
- **Involved agencies:** Schools in Fargo and West Fargo, North Dakota, and Moorhead, Minnesota; National Heart, Lung, and Blood Institute
- **Contact:**
  Cheryl L. Perry, PhD
  Division of Epidemiology
  School of Public Health
  University of Minnesota
  1300 South Second St., Suite 300
  Minneapolis, Minnesota 55454-1015
  (612) 624-4188

The Minnesota Smoking Prevention Program was one component of a communitywide research and demonstration project designed to reduce cardiovascular disease in three midwestern communities from 1980 to 1993. The class of 1989 program combined information, normative awareness, peer leadership role playing, and goal setting as vehicles of student instruction. Students learned about and practiced skills to resist the social influences to smoke.

Evaluation Design

The study design was based on the design of the parent study--the *Minnesota Heart Health Program (MHHP)*. One of the *MHHP* communities participated as the intervention community; a community matched for size, socioeconomic makeup, and distance from Minneapolis-St. Paul was chosen as the control community. Baseline surveys were taken of all sixth graders in both communities in April 1983, with follow-up studies each year thereafter until 1989.

Findings

- At baseline (sixth grade), smoking rates were similar in the schools in the intervention and control communities. For every year thereafter the rate of smoking in the control group was higher than in the intervention group.
- By graduation, the class of 1989 control group students exhibited a smoking rate (24.1%) that was 40% higher than that of the intervention group students (14.6%).

C.L. Perry, S.H. Kelder, D.M. Murray, and K.I. Klepp, "Communitywide Smoking Prevention: Long-Term Outcomes of the Minnesota Heart Health Program and the Class of 1989 Study," *American Journal of Public Health* 82, 9 (September 1992): 1210-1216.

SCHOOL/COMMUNITY PROGRAM FOR SEXUAL RISK REDUCTION AMONG TEENS SOUTH CAROLINA

- **Purpose:** To reduce the occurrence of unintended pregnancies among never-married teens and preteens, postpone initial sexual intercourse, and promote the consistent use of contraception among sexually active teens
- **Targeted grade level:** Kindergarten through twelfth
- **Population studied:** Students from a rural, low-income county (with one of the state's highest estimated pregnancy rates for 14-17 year olds) in South Carolina
- **Program setting:** Classroom, home, community, churches
- **Components:** *Community coordination*
  Health education
  Counseling and mental health services
- **Date of evaluation:** 1983
- **Involved agencies:** Departments of Health Promotion and Education; School of Public Health, University of South Carolina; county school system; South Carolina Health and Human Services Finance Commission (Medicaid)
- **Contact:**
  Murray L. Vincent, EdD
  Department of Health Promotion and Education
  School of Public Health
  University of South Carolina
  Columbia, South Carolina 29208
  (803) 777-5152

The School/Community Program For Sexual Risk Reduction Among Teens focused on helping students (1) increase decision-making skills; (2) improve interpersonal communication skills; (3) enhance self-esteem; (4) align personal values with those of family, church, and community; and (5) increase knowledge of human reproductive anatomy, physiology, and contraception. The program trained adult professionals who in turn provided sex education in all grades and across all subject areas. Parents, clergy, and other community members were trained to act as role models for students. The local newspaper and radio station promoted the program's objectives.

Evaluation Design

Researchers assigned the western portion of the target county to program and the eastern to control status. To factor in potential spillover effect created by the county media, three other counties were also assigned as controls. Estimated pregnancy rates (EPRs) were extracted from data collected by the Office of Vital Records and Public Health Statistics, South Carolina Department of Health and Environmental Control.

Findings

- One year after the intervention, pregnancy rates declined dramatically in the program group (60.6 to 25.1 per 1,000 females) and only slightly in the control group within the same county (66.8 to 52.4).
- Other control counties experienced an increase in pregnancy rates during this same time period.

M.L. Vincent, A.F. Clearie, and M. Schluchter, "Reducing Adolescent Pregnancy through School and Community-Based Education," *Journal of the American Medical Association* 257, 24 (June 26, 1987): 3382-3386.

THE SEATTLE CHILDREN'S BICYCLE HELMET CAMPAIGN SEATTLE, WASHINGTON

- **Purpose:** To increase the use of bicycle helmets among school-age children
- **Targeted grade level:** Kindergarten through ninth
- **Population studied:** Students in elementary school in King County, Washington
- **Program setting:** Community pediatricians' offices, hospitals, health department clinics, schools, bicycle rodeos
- **Components:** *Community coordination* Health education
- **Date of evaluation:** 1986
- **Involved agencies:** Harborview Injury Prevention and Research Center; Cascade Bicycle Club; Bureau of Parent-Child Health Services of the Washington State Department of Social and Health Services and Prevention; Washington State Medical Association; Centers for Disease Control and Prevention
- **Contact:**
  Lisa W. Rogers
  Harborview Injury Prevention and Research Center (ZX-10)
  325 Ninth Avenue
  Seattle, Washington 98104
  (only written inquiries)

The Seattle Children's Bicycle Helmet Campaign educated parents and children about the protection afforded by bicycle helmets, while publicizing the plight of bicycle accident victims through the media. In addition, the campaign promoted the availability of helmets for about half the current price along with tags that would be attached to children's bicycles advertising the helmets. Later on, discount coupons toward the purchase of helmets were also made a part of the campaign. School assemblies and bicycle rodeos featured Sprocketman as well as rewards to children wearing helmets. In addition, well-known sports figures promoted helmet use.

Evaluation Design

A three-year study compared the behavior of parents and children exposed to the bicycle helmet campaign to behavior among those who were not. Researchers surveyed helmet usage among elementary school children in the Seattle area and in Portland, Oregon (the control group), and made 9,827 observations in upper-, middle-, and low-income neighborhoods before, during, and 16 months after the start of the campaign.

Findings

- Helmet usage increased from 5% to 16% in Seattle compared with an increase of only 1% to 3% in Portland over the same period.
- Sales of the Pro-Tec Freestyle II youth helmet in the Seattle-King County area increased from 1,500 in 1986 to 5,000 in 1987 to 20,000 in 1988 and to 30,000 for the first eight months of 1989.
- Of the 109,450 discount coupons distributed, 5,155 (4.7%) were redeemed, a figure considered high in the product promotion field.

A.B. Bergman, F.P. Rivara, D.C. Richards, and L.W. Rogers, "The Seattle Children's Bicycle Helmet Campaign," *American Journal of Diseases of Children* 144 (June 1990): 727-731.

APPENDIX A

HEALTHY PEOPLE 2000 OBJECTIVES AND THE NATIONAL EDUCATION GOALS

HEALTHY PEOPLE 2000 OBJECTIVES AND THE NATIONAL EDUCATION GOALS*

This appendix contains a listing of the Healthy People 2000 objectives and the National Education Goals related to school health programs. Approximately one third of the 300 national health promotion and disease prevention objectives in *Healthy People 2000* can be attained either directly or indirectly through schools and school-based programs. These health objectives are complemented by *GOALS 2000: Educate America*, the strategy laid out by the Clinton Administration for achieving the National Education Goals by the Year 2000. It anticipates major changes in our 110,000 public and private schools and in every community and home in the Nation. Increased parental and community involvement is stressed as vital to supporting programs at the local level. *Healthy People 2000* and *GOALS 2000* each recognize the perils faced by students in the form of alcohol and other drugs, violence, adolescent pregnancy, and AIDS. While the schools alone cannot address these problems, they can contribute significantly to the protection and development of the children who face them. *Healthy People 2000* and *Goals 2000* provide leadership at the national level for addressing these problems.

National Education Goal 1: By the year 2000, all children in America will start school ready to learn.

National Education Objective--All disadvantaged and disabled children will have access to high quality and developmentally appropriate preschool programs that help prepare children for school.

Related National Health Promotion and Disease Prevention Objective:

8.3: Achieve for all disadvantaged children and children with disabilities access to high quality and developmentally appropriate preschool programs that help prepare children for school, thereby improving their prospects with regard to school performance, problem behaviors, and mental and physical health.

National Education Objective--Every parent in America will be a child's first teacher and devote time each day helping his or her preschool child learn; parents will have access to the training and support they need.

National Education Objective--Children will receive the nutrition and health care needed to arrive at school with healthy minds and bodies, and the number of low birthweight babies will be significantly reduced through enhanced prenatal health systems.

Children will receive the nutrition and health care needed to arrive at school with healthy minds and bodies...

Related National Health Promotion and Disease Prevention Objectives:

Nutrition

2.4: Reduce growth retardation among low-income children aged 5 and younger to less than 10 percent.

*From A.C. Novello, C. DeGraw, and D.V. Kleinman, "Healthy Children Ready to Learn: An Essential Collaboration Between Health and Education," Public Health Reports 107, 1 (January-February 1992): 3-15.

BEST COPY AVAILABLE

2.5: Reduce dietary fat intake to an average of 30 percent of calories or less and average saturated fat intake to less than 10 percent of calories among people aged 2 and older.

2.10: Reduce iron deficiency to less than 3 percent among children aged 1 through 4 and among women of childbearing age.

2.11: Increase to at least 75 percent the proportion of mothers who breastfeed their babies in the early postpartum period and to at least 50 percent the proportion who continue breastfeeding until their babies are 5 to 6 months old.

2.12: Increase to at least 75 percent the proportion of parents and caregivers who use feeding practices that prevent baby bottle tooth decay.

2.17: Increase to at least 90 percent the proportion of school lunch and breakfast services and child care food services with menus that are consistent with the nutrition principles in the Dietary Guideline for Americans.

2.19: Increase to at least 75 percent the proportion of the Nation's schools that provide nutrition education from preschool through 12th grade, preferably as part of quality school health education.

2.21: Increase to at least 75 percent the proportion of primary care providers who provide nutrition assessment and counseling and/or referral to qualified nutritionists or dietitians.

Tobacco

3.8: Reduce to no more than 20 percent the proportion of children aged 6 and younger who are regularly exposed to tobacco smoke at home.

Mental Health and Mental Disorders

6.3: Reduce to less than 10 percent the prevalence of mental disorders among children and adolescents.

6.14: Increase to at least 75 percent the proportion of providers of primary care for children who include assessment of cognitive, emotional, and parent-child functioning, with appropriate counseling, referral, and followup, in their clinical practices.

Violent and Abusive Behavior

7.1a: Reduce homicides among children aged 3 and younger to no more than 3.1 per 100,000.

7.4: Reverse to less than 25.2 per 1,000 children the rising incidence of maltreatment of children younger than age 18.

7.13: Extend to at least 45 States implementation of unexplained child death review systems.

7.14: Increase to at least 30 the number of States in which at least 50 percent of children identified as physically or sexually abused receive physical and mental evaluation with appropriate followup as a means of breaking the intergenerational cycle of abuse.

7.15: Reduce to less than 10 percent the proportion of battered women and their children turned away from emergency housing due to lack of space.

Education and Community-Based Programs

8.4: Increase to at least 75 percent the proportion of the Nation's elementary and secondary schools that provide planned and sequential kindergarten through 12th grade quality school health education.

Unintentional Injuries

9.3a: Reduce deaths caused by motor vehicle crashes to no more than 5.5 per 100,000 among children aged 14 and younger.

9.5a: Reduced drowning deaths to no more than 2.3 per 100,000 among children aged 4 and younger.

9.6a: Reduce residential fire deaths to no more than 3.3 per 100,000 among children aged 4 and younger.

9.8a: Reduce nonfatal poisoning among children aged 4 and younger to no more than 520 emergency department treatments per 100,000 children.

9.12a: Increase use of occupant protection systems, such as safety belts, inflatable safety restraints, and child safety seats, to at least 95 percent of children aged 4 and younger who are motor vehicle occupants.

9.13: Increase use of helmets to at least 80 percent of motorcyclists and at least 50 percent of bicyclists.

9.15: Enact in 50 States laws requiring that new handguns be designed to minimize the likelihood of discharge by children.

9.18: Provide academic instruction on injury prevention and control, preferably as part of quality school health education, in at least 50 percent of public school systems (grades K through 12).

9.21: Increase to at least 50 percent the proportion of primary care providers who routinely provide age-appropriate counseling on safety precautions to prevent unintentional injury.

9.22: Extended to 50 States emergency medical services and trauma systems linking prehospital, hospital, and rehabilitation services in order to prevent trauma deaths and long-term disability.

Environmental Health

11.1b: Reduce asthma morbidity, as measured by a reduction in asthma hospitalizations, to no more than 225 per 100,000 among children aged 14 and younger.

11.4: Reduce the prevalence of blood lead levels exceeding 15 micrograms per deciliter and 25 micrograms per deciliter among children aged 6 months through 5 years to no more than 500,000 and zero, respectively.

11.4a: Reduce the prevalence among inner city low-income black children (annual family income less than $6,000 in 1984 dollars) to no more than 75,000 and zero.

Oral Health

13.1: Reduce dental caries (cavities) so that the proportion of children with one or more caries (in permanent or primary teeth) is no more than 35 percent among children aged 6 through 8 and no more than 60 percent among adolescents aged 15.

13.2: Reduce untreated dental caries so that the proportion of children with untreated caries (in permanent or primary teeth) is no more than 20 percent among children aged 6 through 8, and no more than 15 percent among adolescents aged 15.

13.8: Increase to at least 50 percent the proportion of children who have received protective sealants on the occlusal (chewing) surfaces of permanent molar teeth.

13.9: Increase to at least 75 percent the proportion of people served by community water systems providing optimal levels of fluoride.

13.10: Increase use of professionally or self-administered topical or systemic (dietary) fluorides to at least 85 percent of people not receiving optimally fluoridated public water.

13.12: Increase to at least 90 percent the proportion of all children entering school programs for the first time who have received an oral health screening, referral, and followup for necessary diagnostic, preventive, and treatment services.

13.15: Increase to at least 40 the number of States that have an effective system for recording and referring infants with cleft lips and/or palates to craniofacial anomaly teams.

Maternal and Infant Health

14.15: Increase to at least 95 percent the proportion of newborns screened by State-sponsored programs for genetic disorders and other disabling conditions and to 90 percent the proportion of newborns testing positive for disease who receive appropriate treatment.

14.16: Increase to at least 90 percent the proportion of babies aged 18 months and younger who receive recommended primary care services at the appropriate intervals.

Chronic Disabling Conditions

17.4: Reduce to no more than 10 percent the proportion of people with asthma who experience activity limitation.

17.8: Reduce the prevalence of serious mental retardation in school-aged children to no more than 2 per 1,000.

17.15: Increase to at least 80 percent the proportion of providers of primary care for children who routinely refer or screen infants and children for impairments of vision, hearing, speech and language, and assess other developmental milestones as part of well-child care.

17.16: Reduce the average age at which children with significant hearing impairment are identified to no more than 12 months.

17.20: Increase to 50 the number of States that have service systems for children with or at risk of chronic and disabling conditions, as required by Public Law 101-239.

Immunization and Infectious Disease

20.1: Reduce indigenous cases of vaccine-preventable diseases as follows:

DISEASE	1988 baseline	2000 target
Diphtheria among people 25 and younger....	1	0
Tetanus among people 25 and younger....	3	0
Polio (wild-type virus)	0	0
Measles	3,058	0
Rubella	225	0
Congenital Rubella Syndrome	6	0
Mumps	4,866	500
Pertussis	3,450	1,000

20.7: Reduce bacterial meningitis to no more than 4.7 cases per 100,000 people.

20.8: Reduce infectious diarrhea by at least 25 percent among children in licensed child care centers and children in programs that provide an Individualized Education Program (IEP) or Individualized Health Plan (IHP).

20.9: Reduce acute middle ear infections among children age 4 and younger, as measured by days of restricted activity or school absenteeism, to no more than 105 days per 100 children

20.10: Reduce pneumonia-related days of restricted activity as follows: children aged 4 and younger, 24 days per 100 children.

20.11: Increase immunization levels as follows: basic immunization series among children under age 2 to at least 90 percent; basic immunization series among children in licensed child care facilities and kindergarten through post-secondary education institutions to at least 95 percent.

20.13: Expand immunization laws for schools, preschools, and day care settings to all States for all antigens.

20.14: Increase to at least 90 percent the proportion of primary care providers who provide information and counseling about immunizations and offer immunizations as appropriate for their patients.

20.15: Improve the financing and delivery of immunizations for children and adults so that virtually no American has a financial barrier to receiving recommended immunizations.

Clinical Preventive Services

21.2a: Increase to at least 90 percent the proportion of infants up to 24 months who have received, as a minimum within the appropriate interval, all of the screening and immunization services and at least one of the counseling services appropriate for their age and sex as recommended by the U.S. Preventive Service Task Force.

21.2b: Increase to at least 80 percent the proportion of children 2-12 years who have received, as a minimum within the appropriate interval, all of the screening and immunization services and at least one of the counseling services appropriate for their age and sex as recommended by the U.S. Preventive Services Task Force.

21.3: Increase to at least 95 percent the proportion of people who have a specific source of ongoing primary care for coordination of their preventive and episodic health care.

21.4: Improve financing and delivery of clinical preventive services so that virtually no American has a financial barrier to receiving, at a minimum, the screening, counseling, and immunization services recommended by the U.S. Preventive Services Task Force.

21.5: Assure that at least 90 percent of people for whom primary care services are provided directly by publicly funded programs are offered, at a minimum, the screening, counseling, and immunization services recommended by the U.S. Preventive Services Task Force.

.....and the number of low birthweight babies will be significantly reduced through enhanced prenatal health systems.

Related Health Promotion and Disease Evaluation Objectives:

Nutrition

3.7: Increase smoking cessation during pregnancy so that at least 60 percent of women who are cigarette smokers at the time they become pregnant quit smoking early in pregnancy and maintain abstinence for the remainder of their pregnancy.

Maternal and Infant Health

14.1: Reduce the infant mortality rate to no more than 7 per 1,000 live births.

14.2: Reduce the fetal death rate (20 or more weeks of gestation) to no more than 5 per 1,000 live births plus fetal deaths.

14.3: Reduce the maternal mortality rate to no more than 3.3 per 100,000 live births.

14.4: Reduce the incidence of fetal alcohol syndrome to no more than 0.12 per 1,000 live births.

14.5: Reduce low birth weight to an incidence of no more than 5 percent of live births and very low birth weight to no more than 1 percent of live births.

14.6: Increase to at least 85 percent the proportion of mothers who achieve the minimum recommended weight gain during their pregnancies.

14.7: Reduce severe complications of pregnancy to no more than 15 per 100 deliveries.

14.8: Reduce the cesarean delivery rate to no more than 15 per 100 deliveries.

14.10: Increase abstinence from tobacco use by pregnant women to at least 90 percent and increase abstinence from alcohol, cocaine, and marijuana by pregnant women by at least 20 percent.

14.11: Increase to at least 90 percent the proportion of all pregnant women who receive prenatal care in the first trimester of pregnancy.

14.12: Increase to at least 60 percent the proportion of primary care providers who provide age-appropriate preconception care and counseling.

14.13: Increase to at least 90 percent the proportion of women enrolled in prenatal care who are offered screening and counseling on prenatal detection of fetal abnormalities.

14.14: Increase to at least 90 percent the proportion of pregnant women and infants who receive risk-appropriate care.

National Education Goal 2: By the year 2000, the high school graduation rate will increase to at least 90 percent.

National Education Objective--The nation must dramatically reduce its dropout rate and 75 percent of those students who do drop out will successfully complete a high school degree or its equivalent.

Related National Health Promotion and Disease Prevention Objective:

8.2: Increase the high school graduation rate to at least 90 percent, thereby reducing risks for multiple problem behaviors and poor mental and physical health.

National Education Goal 6. By the year 2000, every school will be free of drugs and violence and will offer a disciplined environment conducive to learning.

National Education Objective--Every school will implement a firm and fair policy on use, possession, and distribution of drugs and alcohol.

Related National Health Promotion and Disease Prevention Objectives:

Tobacco

3.5: Reduced the initiation of cigarette smoking by children and youth so that no more than 15 percent have become regular cigarette smokers by age 20.

3.9: Reduce smokeless tobacco use by males aged 12 through 24 to a prevalence of no more than 4 percent.

3.10: Establish tobacco-free environments and include tobacco use prevention in the curricula of all elementary, middle, and secondary schools, preferably as part of comprehensive school health education.

3.11: Increase to at least 75 percent the proportion of worksites (includes schools) with a formal smoking policy that prohibits or severely restricts smoking at the workplace.

3.12: Enact in 50 States comprehensive laws on clean indoor air that prohibit or strictly limit smoking in the workplace and enclosed public places (including health care facilities, schools, and public transportation).

3.13: Enact and enforce in 50 States laws prohibiting the sale and distribution of tobacco products to youth younger than age 19.

3.14: Increase to 50 the number of States with plans to reduce tobacco use, especially among youth.

3.15: Eliminate or severely restrict all forms of tobacco product advertising and promotion to which youth younger than 18 are likely to be exposed.

3.16: Increase to at least 75 percent the proportion of primary care and oral health care providers who routinely advise cessation and provide assistance and followup for all of their tobacco-using patients.

Alcohol and Other Drugs

4.5: Increase by at least 1 year the average age of first use of cigarettes, alcohol, and marijuana by adolescents aged 12 through 17.

4.6: Reduce the proportion of young people who have used alcohol, marijuana, and cocaine in the past month.

4.7: Reduce the proportion of high school seniors and college students engaging in recent occasions of heavy drinking of alcoholic beverages to no more than 28 percent of high school seniors and 32 percent of college students.

4.11: Reduce to no more than 3 percent the proportion of male high school seniors who use anabolic steroids.

4.12: Establish and monitor in 50 States comprehensive plans to ensure access to alcohol and drug treatment programs for traditionally underserved people.

4.14: Extend adoption of alcohol and drug policies for the work environment to at least 60 percent of worksites (includes schools) with 50 or more employees.

National Education Objective--Every school district will develop a comprehensive K-12 drug and alcohol prevention education program. Drug and alcohol curriculum should be taught as an integral part of health education. In addition, community-based teams should be organized to provide students and teachers with needed support.

Related National Health Promotion and Disease Prevention Objectives:

Alcohol and Other Drugs

4.9: Increase the proportion of high school seniors who perceive social disapproval associated with the heavy use of alcohol, occasional use of marijuana, and experimentation with cocaine.

4.10: Increase the proportion of high school seniors who associate risk of physical or psychological harm with the heavy use of alcohol, regular use of marijuana, and experimentation with cocaine.

4.13: Provide to children in all school districts and private schools primary and secondary school educational programs on alcohol and other drugs, preferably as part of quality school health education.

Education and Community-Based Programs

8.4: Increase to a least 75 percent the proportion of the Nation's elementary and secondary schools that provide planned and sequential kindergarten through grade 12 quality school health education.

8.9: Increase to at least 75 percent the proportion of people aged 10 and older who have discussed issues related to nutrition, physical activity, sexual behavior, tobacco, alcohol, other drugs, or safety with family members on at least one occasion during the preceding month.

Other National Health Promotion and Disease Prevention Objectives related to National Education Goal 6:

Violent and Abusive Behavior

7.1: Reduce homicides to no more than 7.2 per 100,000 people.

7.2a: Reduce suicides to no more than 8.2 per 100,000 youth aged 15-19.

7.3: Reduce weapon-related violent deaths to no more than 12.6 per 100,000 people from major causes.

7.4: Reverse to less than 25.2 per 1,000 children the rising incidence of maltreatment of children younger than age 18.

7.6: Reduce assault injuries among people aged 12 and older to no more than 10 per 1,000 people.

7.7: Reduce rape and attempted rape of women aged 12 and older to no more than 107 per 100,000 women.

7.9: Reduce by 20 percent the incidence of physical fighting among adolescents aged 14 through 17.

7.10: Reduce by 20 percent the incidence of weapon-carrying by adolescents aged 14 through 17.

7.16: Increase to at least 50 percent the proportion of elementary and secondary schools that teach nonviolent conflict resolution skills, preferably as part of quality school health education.

7.17: Extend coordinated, comprehensive violence prevention programs to at least 80 percent of local jurisdictions with populations over 100,000.

APPENDIX B

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REFERENCES

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APPENDIX C

FORM TO PROVIDE INFORMATION ON EVALUATED SCHOOL HEALTH PROGRAMS

FORM TO PROVIDE INFORMATION ON EVALUATED SCHOOL HEALTH PROGRAMS

The U.S. Public Health Service seeks information about evaluated school health programs not represented in this publication. This form may be copied. Please fill out a separate form for each program and mail to:

Coordinator, Children and School Programs
Office of Disease Prevention and Health Promotion
U.S. Public Health Service
Switzer Building, Room 2132
330 C Street, SW
Washington, DC 20201

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1. **Title of Program or Activity** _____

2. **Name of School** _____

3. **City, State** _____

4. **Program Purpose** _____

_____

_____

_____

5. **Target Groups** (Check all that apply)

- ☐ Elementary Students
- ☐ Middle School/Junior High Students
- ☐ High School Students
- ☐ College/University Students
- ☐ Students with Special Needs/Special Education
- ☐ Parents
- ☐ Faculty/Staff

6. **Target Grade Level(s)** _____

7. **Program Setting** (Check all that apply)

- ☐ Classroom
- ☐ Cafeteria
- ☐ Auditorium
- ☐ Community
- ☐ Home
- ☐ Other (specify) _____

8. **Program Components** (Check the boxes that apply)

- ☐ Health education
- ☐ Clinical services
- ☐ Counseling and mental health services
- ☐ School environment
- ☐ School food programs
- ☐ Physical education and fitness programs
- ☐ Faculty and staff health promotion
- ☐ Community coordination

9. **Dates of Evaluation** _____

10. **Involved Agencies** _____

11. **Program Contact**

Name _____

Title _____

Organization _____

Address _____

_____

Telephone _____ FAX _____

12. **Program Description**--Attach a brief description of the program, including:

- Purpose of program
- Description of activities and interventions
- Demographic characteristics of partipating groups
- Status of current activities

13. **Program Evaluation**--Briefly describe any evaluation that has been conducted, citing:

- Date of evaluation
- Person(s) conducting the evaluation, including address and phone number
- Findings of the evaluation

Please enclose a photocopy of any available journal articles, reports, etc., that document the evaluation.

14. **Additional Information**--Please attach any additional, relevant material about the program or the evaluation.

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